PB90-107574

Superfund Record of Decision (EPA Region 3): Hebelka Auto Salvage Yard, Weisenburg Township Lehigh County, PA (First Remedial Action), March 1989

(U.S.) Environmental Protection Agency, Washington, DC

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U.S. Department of Commerce
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EPA/ROD/R03-89/069
March 1989

EPA

Superfund Record of Decision:

Hebelka Auto Salvage Yard, PA

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15. Supplementary Notes

16. Abstract (Limit: 200 words)

The 20-acre Hebelka site is located in a rural area of the Weisenburg Township in Lehigh County, Pennsylvania. The site is bordered primarily by agricultural fields; however, three residences are located on or immediately adjacent to the site. From 1958 to 1979, the property was used as an automobile junk yard with intermittent periods of activity involving salvage operations. Debris including two large piles of battery casings, empty drums, junk cars, and scrap metal were accumulated on site. A site inspection in December 1985 revealed lead in soil downgradient from the battery piles, and chromium in downgradient sediments. Lead concentrations were highest in surface soil samples (<3ft) ranging from 200-65,000 mg/kg. This ROD addresses source control; a second operable unit will address migration pathways such as downgradient sediments and ground water. The primary contaminant of concern at the site is lead.

The selected remedial action for this site includes excavation and onsite fixation of 5,000 yd3 of soil, followed by offsite disposal of treated soil at a sanitary landfill; excavation and recycling of 1,000 yd3 of battery casings; and soil backfilling and revegetation. The estimated present worth cost for this remedial action ranges from $6,073,436 to $6,884,652; the greater cost reflects the additional expense of disposing of the battery casings if recycling is impractical. No O&M costs are expected.

17. Document Analysis a. Descriptors

Record of Decision - Hebelka Auto Salvage Yard, PA
First Remedial Action
Contaminated Media: soil, debris
Key Contaminants: metals (lead)

b. Identifiers/Open-Ended Terms

c. COSATI Field/Group

18. Availability Statement	19. Security Class (This Report) None	21. No. of Pages 59
	20. Security Class (This Page) None	22. Price

(See ANSI-Z39.18) See Instructions on Reverse OPTIONAL FORM 272 (4-77) (Formerly NTIS-35) Department of Commerce

RECORD OF DECISION

SITE NAME AND LOCATION

Hebelka Auto Salvage Yard
Weisenburg Township
Lehigh County, Pennsylvania

STATEMENT OF BASIS AND PURPOSE

This decision document presents the selected remedial action for the Hebelka Auto Salvage Yard in Weisenburg Township, Lehigh County, Pennsylvania, developed in accordance with the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986, and to the extent practicable, the National Oil and Hazardous Substances Contingency Plan, 40 CFR Part 300. This decision is based on the administrative record file for the Hebelka Auto Salvage Yard. The attached index identifies the items that comprise the Administrative Record upon which the selection of the remedial action is based.

The Commonwealth of Pennsylvania has concurred on the selected remedy. A copy of the State's letter of concurrence is attached.

DESCRIPTION OF THE SELECTED REMEDY

The remedy described in this Record of Decision is the first of two operable units planned for the site. This operable unit addresses the source of the contamination by remediation of the battery casings and contaminated soils. An estimated 5,000 cubic yards of soil and 1,000 cubic yards of battery casings require remediation. Additional remedial actions addressing contaminant migration pathways (downgradient sediments and ground water) will be determined in a second operable unit Record of Decision.

The selected remedy includes the following major elements:

- Recycling of battery casings.

- Excavation of lead contaminated soil, fixation of the soil, utilizing a cement- or lime-based fixation process and depositing the fixed material in a landfill that the State has permitted to accept.

DECLARATION

The selected remedy is protective of human health and the environment, attains Federal and State requirements that are applicable or relevant and appropriate to this remedial action, and is cost-effective. This remedy satisfies the statutory preference for remedies that employ treatment which reduces toxicity, mobility, or volume as a principal element. Finally, this remedy utilizes permanent solutions and alternative treatment to the maximum extent practicable. Because this remedy will not result in hazardous substances remaining onsite above health-based levels, the five-year facility review will not apply to this action.

3-31-89
Date

Stanley L. Laskowski
Acting Regional Administrator
EPA Region III

Summary of Remedial Alternative Selection

I. Site, Location and Description

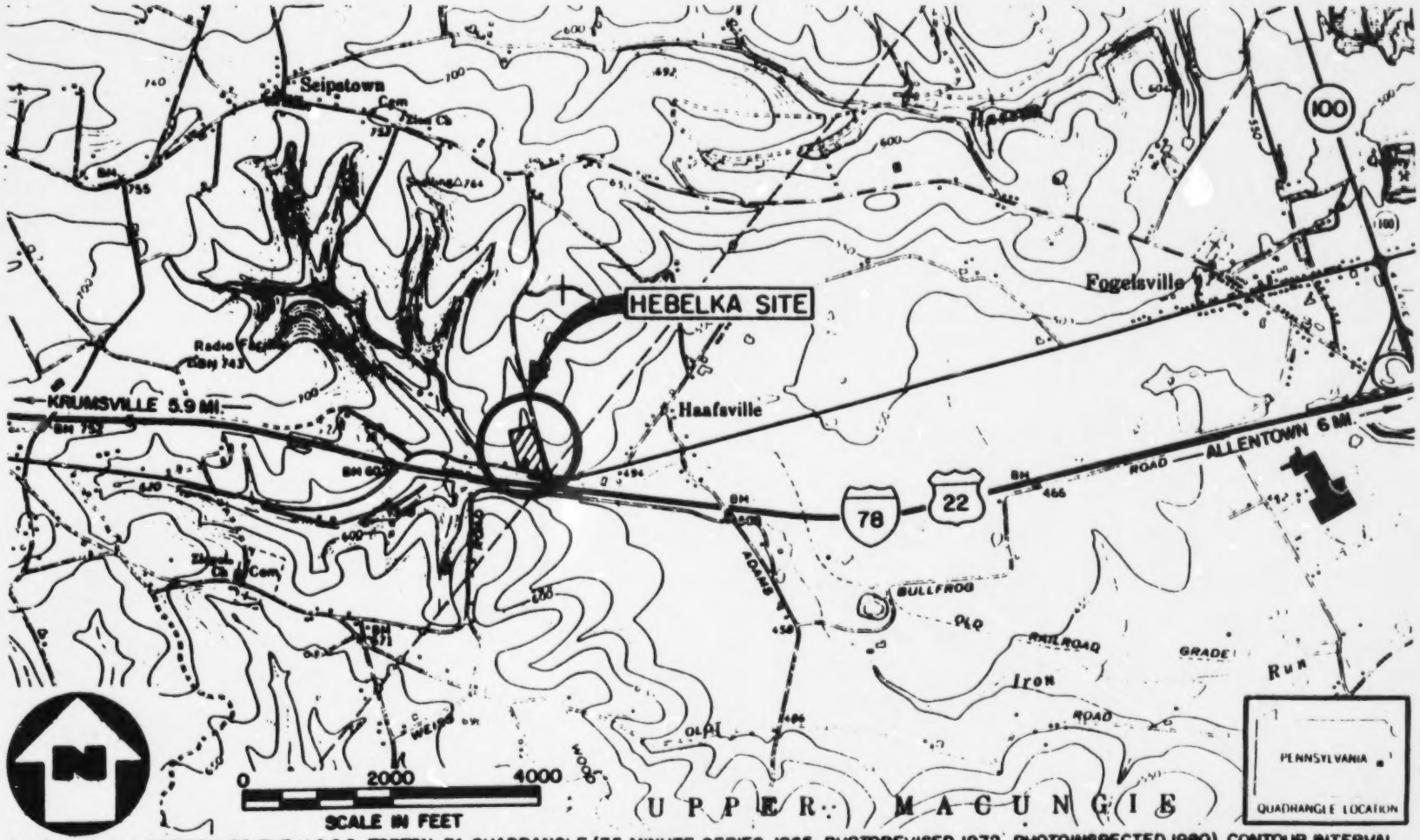
The location of the Hebelka property (the "Site") is shown on Figure 1. The property occupies approximately 20 acres within the headwaters of the Iron Run subdrainage basin. Topographically the property is positioned on the south side of a low, moderately steep hill north of Interstate Highway 78 and Old Route 22 (the two highways are parallel to each other running generally east-west) approximately 9 miles west of Allentown, Pennsylvania. The property is bordered on the south by Old Route 22 and Interstate Highway 78; on the east by Tercha Road and an agricultural field; on the north by a second agricultural field; and on the west by a Township Route T-541 and open, rural land. The general arrangement of the site is shown on Figure 2.

The Hebelka property has a maximum topographic relief of 100 feet with elevations above mean sea level ranging between 510 and 610 feet. Slopes on the site vary between 6 and 25 percent. The western half of the site exhibits a relatively uniform slope of between 7 and 10 percent downward from the northern extreme toward the west and south. The eastern half of the site consists of a drainage swale which extends from the site's northern extreme toward the southern border with an average slope of about 6 percent. The sides of the swale rise toward the east and west with relatively uniform slopes of about 25 percent.

Overall, relatively few trees grow on the property. Trees that are present tend to grow along the west or southern border, except for a few sparse groups of trees scattered over the site. Much of the site is covered by wild grass and weeds. Only in the relatively flat (7 percent and less) north-central area, which also happens to be near the highest elevations on the site, is the ground surface essentially bare except for the sparse groups of trees.

The materials stored on the site give evidence of its history as an automotive disposal facility. The stored materials include automobiles, tires, occasional piles of miscellaneous scrap or trash, empty storage tanks, and empty drums. The major accumulation of waste material, though, consists of discarded automotive batteries now located in two distinct piles.

Three homes exist on or immediately adjacent to the Hebelka property. One home is located on adjacent property approximately 1,500 feet northwest of the northwest corner of the Hebelka property. A second home is located along the site's southern property line and is surrounded by the Hebelka property on three sides. The third home was owned by Lovie Hebelka. It is located near the southeastern corner of the Hebelka property. A frame barn and a frame shed are also located on the Hebelka property near the southern boundary.



BASE MAP IS A PORTION OF THE U.S.G.S. TOPTON, PA QUADRANGLE (7.5 MINUTE SERIES, 1965, PHOTOREVISED 1972, PHOTOINSPECTED 1980). CONTOUR INTERVAL TEN FEET.

FIGURE 1

LOCATION MAP
HEBELKA SITE, LEHIGH CO., PA

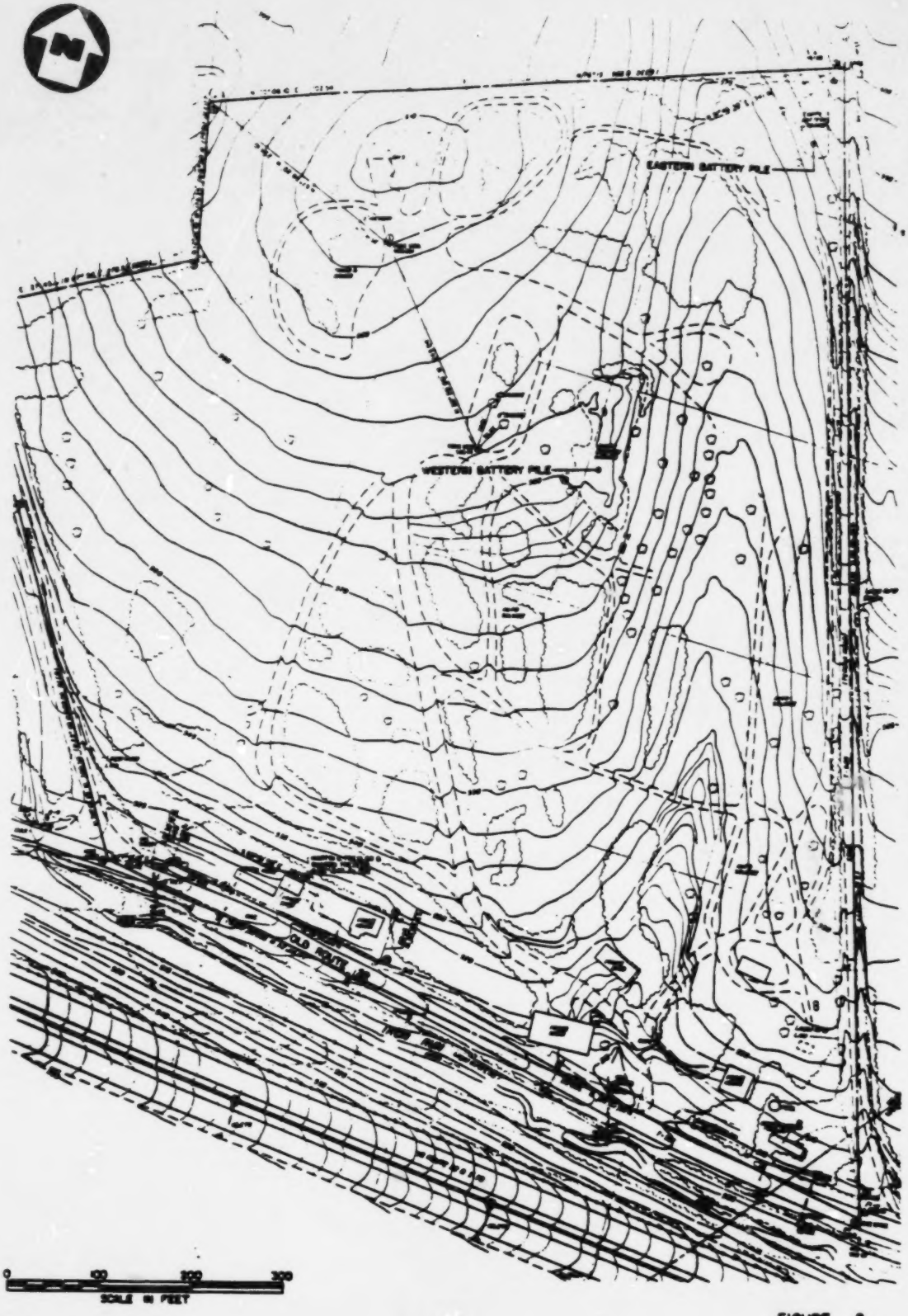


FIGURE 2

GENERAL ARRANGEMENT
HEBELKA SITE, LEHIGH CO., PA

II. Site History

The Hebelka Site was purchased in 1958 by Mr. and Mrs. Joseph Hebelka, now deceased. The property is currently a part of the estate of Lovie Hebelka. During the period between 1958 and 1979, the property was used as an automobile junkyard with periods of activity involving salvage operations. At some point during the past 10 to 15 years, two large piles (totaling approximately 1,000 cubic yards) of used battery casings accumulated on the site in addition to empty storage tanks, empty drums, junk cars, and miscellaneous scrap metal. The Pennsylvania Department of Environmental Resources (PADER) reported that operations on the site ceased on 1979.

On December 15, 1985, the EPA Region III Field Investigation team (FIT III) visited the site for the purpose of conducting a Site Inspection (SI). The Site Inspection report revealed the presence of two battery piles at the site, termed the eastern pile and the western pile. The major contaminants identified during the Site Inspection include lead in soils downgradient from the battery piles and chromium in downgradient Iron Run sediments.

The Hebelka Site was proposed for inclusion on the National Priorities List (NPL) on June 1, 1986. A Remedial Investigation and Feasibility Study (RI/FS) was conducted between March 1987 and March 1989 to examine the nature and extent of contamination and to identify alternatives for remediating the site conditions. The RI/FS reports were released to the public on March 1, 1989.

III. Community Relations History

Although the Hebelka Superfund Site is located in a rural area, residential properties are within close proximity.

In May 1986, EPA distributed a press release announcing that the Hebelka site was proposed for the National Priorities List. Onsite and telephone interviews were conducted with local residents and officials in July 1987. No citizens group is associated with the site, and EPA activities at the site have not been a major concern to local residents.

As required in the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), an advertisement was placed in the local newspaper announcing EPA's preferred site cleanup alternative. The comment period lasted from February 24, 1989 through March 26, 1989. During the public comment period, only one comment was received in the form of a letter from the attorney for the children of the deceased site owner. The attorney requested that EPA hold a public meeting. In response to that request, EPA scheduled a public meeting for Thursday, March 23, 1989 at the Weisenburg Township building.

The interim Administrative Record was sent to the site repositcry at the Weisenburg Township Hall in Lehigh County, Pennsylvania, on March 1, 1989. The proposed plan was available for public comment on February 24, 1989.

IV. Scope and Role of Response Action within Site Strategy

This first operable unit is planned to address soil contamination and battery casings on the site. Additional sampling will be done to determine the necessity of a second operable unit to address possible ground water and sediment contamination. The remedy of this operable unit is consistent with any future remediation at the site.

V. Description of Investigative Activities

The Hebelka Site was placed on the National Priority List on July 1, 1987, based on the findings of the Site Investigation. A remedial investigation of the site was initiated on March 3, 1987. The onsite remedial investigation field activities included the collection of samples from contaminant sources, surface and subsurface soils, ground water, surface water, and sediment, as well as the performance of aquifer tests (slug tests) and a biota investigation along Iron Run. Onsite background contaminant levels were examined by collecting surface soil, subsurface soil, and ground water samples. Soil borings and monitoring wells were installed upgradient from the battery piles. The soil samples were analyzed for lead, mercury, zinc, acidity, and alkalinity. Ground water samples included both filtered and unfiltered samples and were analyzed for Target Analyte List (TAL) inorganics, sulfate, acidity, and alkalinity. Offsite background contaminants levels were examined by collecting surface water and sediment samples from locations upgradient from the Hebelka surface water discharge to Iron Run. Surface water samples were unfiltered and were analyzed for hexavalent chromium and TAL inorganics. Sediment sample analyses included hexavalent chromium, TAL inorganics, pesticides, and polycyclic aromatic hydrocarbons (PAHs).

Source contamination was investigated by collecting samples from the battery pile material; from soil borings drilled under and downgradient from each battery pile; and from surface soil samples from a grid pattern around and downgradient from each battery pile. The samples taken from the battery piles included samples of the residual liquids and the residual solids found inside the battery casings, all of which were analyzed for lead, mercury and acidity analysis. Additionally, representative samples of the overall battery pile material (battery casings along with residual solids and liquids) were collected for testing using the Toxicity Characterization Leaching Procedure (TCLP) analysis for the purpose of evaluating the hazardous characteristics of the material as defined by the Resource, Conservation, and Recovery Act (RCRA). Soil boring samples were analyzed for lead, mercury, zinc, acidity, alkalinity, cation exchange capacity (CEC), pH, and Eh

(oxidation reduction potential). The resulting data provided information regarding the depth and horizontal distribution of soil contamination under and downgradient from each battery pile.

The potential for contaminant migration was addressed by sampling surface soil along potential migration routes; sampling ground water in downgradient monitoring wells; sampling surface water and sediment at locations downgradient from the site; performing aquifer tests (i.e., estimating the ground water flow rate and direction); examining the ground water flow rate and direction; and examining the biota in Iron Run for indications of adverse effects due to site-related contamination. The field activities included provisions for the collection of 14 surface soil samples from selected locations to investigate the presence of previously unidentified contaminant sources and/or migration routes. Because these samples served, in part, as a screening function, they were subjected to a broader array of analyses, including Target Compound List (TCL) volatile organics, TAL inorganics, pesticides, PAHs, CEC (cation exchange capacity), pH, and Eh. Downgradient surface water and sediment samples were subjected to the same analyses as the background samples described earlier.

VI. Site Characteristics

The overburden soil on the site exists almost exclusively at the lower elevations near the southern border. At the lower elevations, the overburden thickness encountered in monitoring well borings varied between 5.5 and 10.5 feet. At the higher elevations, weathered bedrock was encountered within one foot of the surface.

The bedrock under the site consists of the Bushkill member of the Martinsburg Formation. The bedrock is composed of very broken to moderately broken silty shale with quartz zones interbedded throughout. The extent of fracturing tends to decrease with increasing depth. Bedrock becomes increasingly calcareous with depth, possibly indicating a formation change. The surface of the bedrock slopes generally toward the southeast.

Ground water at the Hebelka Site flows toward the southwest, generally parallel to the bedrock surface, through openings and fractures in the Martinsburg Shale with an average horizontal hydraulic gradient of 0.063 feet/foot. The ground water also exhibits a downward vertical hydraulic gradient (0.35 feet/foot average), which tends to increase toward the southwest and may be indicative of vertical leakage into the underlying carbonate layer. Calculations from the slug test data indicate that ground water is flowing toward the southwest at approximately 212 feet per year.

Battery liquid and residual solid waste samples exhibited high concentrations for lead and acidity. Lead concentrations in the liquids ranged between 7,320 ug/l (parts per billion) and 1,100,000 ug/l, and acidity values were as high as 66 mg/l (as $CaCO_3$). Lead

in the residual solids ranged between 110,000 mg/kg (parts per million) and 361,000 mg/kg with acidity values up to 210 mg/l. The TCLP analyses of representative battery pile materials yielded lead concentrations from 22,100 ug/l to 48,600 ug/l. Lead was the only metal for which the reported TCLP concentration exceeded the Extraction Procedure (EP) Toxicity criteria for hazardous wastes (40 CFR Section 261.24). Tables 1 and 2 summarize the results of the sampling data.

The analysis of the samples collected from the onsite drums did not reveal levels of contaminants that would indicate that the drums are an additional source of significant contamination.

Background soil boring sample analyses indicate onsite, background, and surface soil lead concentrations of 133 and 140 mg/kg, compared to an expected average background concentration range of 2 to 200 mg/kg found in literature (Lindsay, 1979). Surface soil contamination detected on the site consists primarily of lead in soil under and near the battery piles. The surface samples (0 to 3 inches) from soil borings and the surface soil grid samples correlated well with respect to detected lead concentrations. The deeper soil boring samples demonstrated that contamination was at or below background concentrations at depths greater than 3 feet. Lead concentrations were highest in surface soil samples collected from borings located under the battery piles (typical high values: 5,090, 15,000 and 65,100 mg/kg). Above-background surface soil lead concentrations ranging between 200 and 3,000 mg/kg are generally confined to areas within 30 feet of a battery pile perimeter. Exceptions do occur for an area northwest of the western battery pile and two isolated locations west of and adjacent to Tercha road. Figure 3 shows the extent and concentration of lead contamination in the soil and Table 3 summarizes the surface soil data.

Both filtered and unfiltered ground water samples were collected from onsite monitoring wells. Filtered samples were collected to examine ground water for its dissolved metals content. Only one of the 10 filtered samples resulted in a reported metal concentration. Lead was detected at a concentration of 6.8 ug/l in that sample. Unfiltered ground water samples exhibited a range of lead concentrations from 13 ug/l to 6,250 ug/l. The highest concentration occurred in the sample taken from the most downgradient monitoring well.

Offsite sampling activities included surface water and sediment samples from Iron Run, the unnamed tributary discharging from the Hebelka property to Iron Run, and the storm water discharge serving the highway south of Iron Run. The analyses of surface-water samples indicated little difference in water quality between upstream and downstream (from the Hebelka Site) locations. Additionally, no detectable levels of either lead or hexavalent chromium were found in the surface water samples. Downstream sediment samples showed metals concentrations between two and five

TABLE 1

SUMMARY OF ANALYTICAL RESULTS
BATTERY LIQUID SAMPLES
HEBELKA SITE, LEHIGH COUNTY, PENNSYLVANIA

Compound	Units	Number of Positive Detections from 25 Samples	Minimum Detected Concentration	Maximum Detected Concentration	Average Concentration
Lead	ug/l	25	7,320	1,100,000	179,470
Mercury	ug/l	1	2.2	2.2	2.2
Acidity ($CaCO_3$)	mg/l	25	-34	66	9.2

SUMMARY OF ANALYTICAL RESULTS
BATTERY SOLIDS SAMPLES
HEBELKA SITE, LEHIGH COUNTY, PENNSYLVANIA

Compound	Units	Number of Positive Detections from 25 Samples	Minimum Detected Concentration	Maximum Detected Concentration	Average Concentration
Lead	mg/kg	25	110,000	361,000	214,320
Acidity ($CaCO_3$)	mg/l	25	-9	210	14

TABLE 2

COMPARISON OF EP TOXICITY CRITERIA AND TCLP ANALYTICAL RESULTS

Contaminant	EP Toxicity(1) Maximum Concentration (µg/l)	TCLP Analytical Results (µg/l)	
		Maximum	Minimum
Arsenic	5,000	169	42.9
Barium	100,000	22	14
Cadmium	1,000	ND(2)	ND
Chromium	5,000	ND	ND
Lead	5,000	48,600	22,100
Mercury	200	ND	ND
Selenium	1,000	3.4	3
Silver	5,000	ND	ND

(1) Reference: 40 CFR 261.24, Table 1
(2) ND = Not Detected

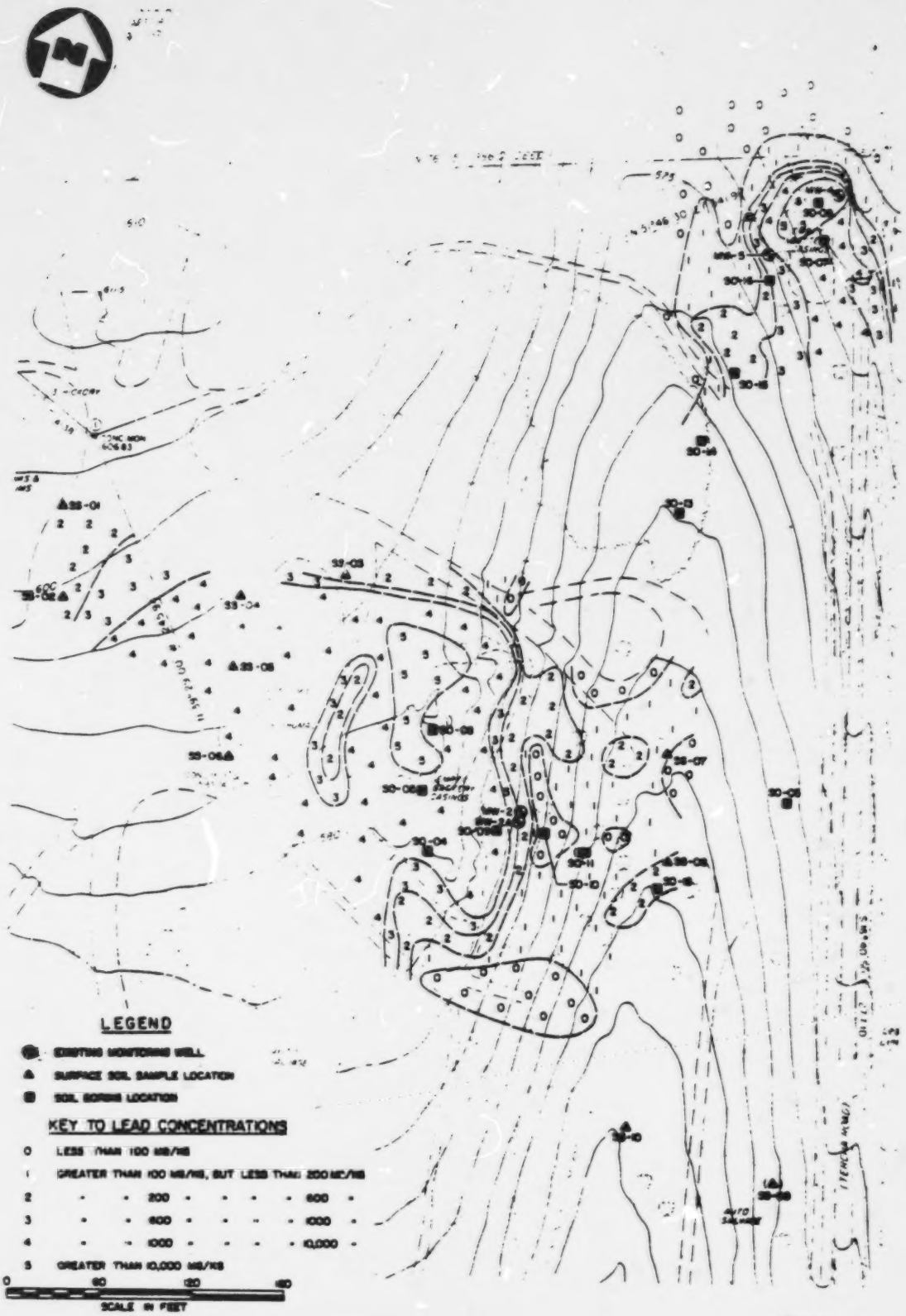

LEGEND
EXISTING MONITORING WELL
SURFACE SOIL SAMPLE LOCATION
SOIL BORING LOCATION
KEY TO LEAD CONCENTRATIONS
0 LESS THAN 100 MG/KG
1 GREATER THAN 100 MG/KG, BUT LESS THAN 200 MG/KG
2 " " 200 " " " " 600 "
3 " " 600 " " " " 1000 "
4 " " 1000 " " " " 10,000 "
5 GREATER THAN 10,000 MG/KG
0 60 120 180
SCALE IN FEET

FIGURE 3

WESTERN AND EASTERN BATTERY PILES
SURFACE SOIL LEAD CONCENTRATIONS
HEBELKA SITE, LEHIGH CO., PA

TABLE 3

SUMMARY OF ANALYTICAL RESULTS
SURFACE SOIL GRID SAMPLES (0 TO 3 INCHES DEEP)
HEBELKA SITE, LEHIGH COUNTY, PENNSYLVANIA

Compound	Units	Number of Positive Detections from 43 Samples	Minimum Detected Concentration	Maximum Detected Concentration	Average Concentration
Lead (Western Grid, 43 Samples)	mg/kg	43	23	18,000	1,121
Lead (Eastern Grid, 34 Samples)	mg/kg	34	34	32,000	2,182

times higher than the concentrations detected in upstream sediment samples. The major downstream contaminant detected was lead at a concentration of 1,810 mg/kg. A second sample collected 100 feet further downstream, however, exhibited a lead concentration of only 32 mg/kg.

Contaminant Transport and Need for Additional Study

A question regarding potential offsite migration of lead contaminated ground water remains unanswered. Lead concentrations in ground water, as determined by unfiltered ground water samples, was detected at concentrations (6,250 ug/l). This value was due to the sample containing large amounts of soil particles and the value does not represent a health concern. This well will be resampled during the second round of sampling to characterize the ground water. The following actions will be included in the second round of sampling and addressed, if necessary, in a second operable unit Record of Decision:

* Collect a second round of ground water samples,

* Request data regarding treated water from water authorities using downgradient ground water as a source of supply,

* Identify and possibly sample downgradient, domestic, private wells.

VII. Risk Assessment

Inorganic lead may be absorbed by inhalation or by ingestion. Absorption by either route contributes in an additive fashion to the total body burden. Among adults, inhalation is the more efficient of the two mechanisms. The fraction of inhaled lead absorbed from the respiratory tract is approximately 40 percent, while the fraction of ingested lead absorbed from the gastrointestinal tract is approximately 10 percent. These rates may be higher in children and are of particular relevance in assessing exposures in this sensitive subpopulation.

The toxicology of lead has been extensively reviewed. Alterations in the hematopoetic (blood forming) and central nervous systems are the primary toxic effects caused by exposures to lead. Cognitive and behavioral deficits are the focus of much current research on relatively low levels of lead exposure.

The Centers for Disease Control (CDC) has determined that a blood lead level in children of 25 ug/dl or above indicates excessive lead absorption and constitutes grounds for medical intervention. That determination is based on the occurrence of enzymatic abnormalities in the red blood cells at blood lead levels above 25 ug/dl and by the finding of neurologic dysfunction in children at blood lead levels between 35 and 50 ug/dl. Further, the CDC defines childhood lead poisoning at a blood lead level of 25 ug/dl

in association with an erythrocyte protoporphyrin (EP) level of 35 ug/dl or above (CDC 1985). In its draft toxicological profile for lead, CDC has also cautioned that concentrations greater than 500 to 1000 ppm could lead to elevated blood lead levels in children inhaling or swallowing dirt. Recent findings of cognitive deficits associated with lower blood lead concentrations may result in a review of the adequacy of the existing CDC threshold level.

Exposure scenarios considered for potential contact with contaminated surface soils include children who may be exposed to onsite surface soil via dermal contact and accidental ingestion. Adult dermal exposure may occur through work activities or occasional contact. To provide a worst-case estimate of health effects, the maximum concentrations of indicator compounds were employed.

For carcinogens, the estimated dose can be converted to incremental lifetime cancer risk, which represents the probability or range of probabilities that a carcinogenic effect will occur. For known or suspected carcinogens, acceptable exposure levels are generally concentration levels that represent an excess upperbound lifetime cancer risk to an individual of between 10^{-4} and 10^{-7} using information on the relationship between dose and response. Carcinogenic risks of 10^{-4} to 10^{-7} correspond to one additional case of cancer in 10,000 and 10,000,000 receptors exposed, respectively.

To evaluate the potential for noncarcinogenic effects, the estimated daily dose is compared directly to reference dose. The ratio of the estimated exposure level to an acceptable exposure level provides a numerical indication of potential for adverse effects. To assess the total potential for noncarcinogenic effects posed, a hazard index can be calculated. When the hazard index is greater than one, the potential for adverse noncarcinogenic effects is increased. When a hazard index is less than or equal to one, no adverse noncarcinogenic effects are expected.

A summary of the health and environmental risks associated with the Hebelka Site is presented below.

* Accidental ingestion of onsite surface soils by children is likely to pose a potential for noncarcinogenic health effects. This is evidenced by the calculated worst-case hazard indices of greater than one for all areas of the site. These hazard indices can be attributed to the presence of lead in surface soils.

* Carcinogenic risk estimates associated with accidental ingestion of contaminated surface soils by children range from 1.63×10^{-8} to 2.52×10^{-5}. The highest risk estimates are associated with exposure to surface soils containing PAHs in the north-central portion of the site.

* Dermal contact with onsite surface soils by children and adults poses a minimal potential for noncarcinogenic health effects. The calculated hazard indices are less than one; therefore, adverse

effects associated with dermal exposure to surface soils are not expected.

* Carcinogenic risk estimates associated with dermal contact of onsite surface soils by children and adults range from 1.67×10^{-12} to 1.39×10^{-5}. The highest risk estimates are associated with exposure to surface soils containing PAHs in the north-central portion of the site.

* Long-term inhalation of air containing particulate lead at a distance of 700 meters (the approximate distance to the nearest receptor home) from the battery piles is unlikely to be associated with adverse health effects.

The environmental risks of the sediment contamination will be assessed in the second operable unit Record of Decision.

Remedial Action Objectives

The accidental ingestion of lead-contaminated soil and battery pile material, and the accidental ingestion of, or dermal contact with PAH contaminated surface soils, are the contaminants and exposure pathways addressed in the Feasibility Study (FS). The risk posed by elevated PAH contamination is very limited, having been detected in only four surface soil samples, each from visually stained soils covering only a few square feet. Additionally, all four samples were collected from sampling points located within the much larger areas (a total of 14,200 square yards, or 2.9 acres) of elevated lead-contaminated soils and battery pile materials. The potential remedial actions developed in the FS, therefore, focus on the remediation of lead-contaminated soils and battery pile materials.

The ground water data collected during the RI effort was inconclusive. The standard protocols used for filtering ground water samples in the field may have resulted in false negative analytical results for dissolved lead. On the other hand, the high turbidity in unfiltered ground water samples, as a result of insufficiently developed monitoring wells, may have resulted in artificially high analytical results for total lead. The RI data currently available does not conclusively demonstrate the need for ground water remediation. Therefore, potential remedial alternatives for lead in groundwater are not developed in the FS. Additional remedial action addressing contaminant migration pathways (downgradient sediments and ground water) will be determined in a second operable unit Record of Decision.

The potential remedial alternatives are based on leaving a lead concentration of 560 mg/kg in the soil. The 560 mg/kg level is based on health risk calculations which consider a safe soil ingestion scenario.

The volume of contaminated material on the site includes 1,000 cubic yards of battery casings and 6,900 cubic yards of lead-

contaminated soil. Figure 4 shows the approximate area of contaminated soil. The estimated volume is based on a 3-foot depth of lead contamination in soil. The RI effort included soil boring samples from the surface and depth of 3 feet. The analytical data indicates that, with a single exception, the lead concentrations detected in the 3-foot sample are below the cleanup concentration of 560 mg/kg. No data is available to evaluate the lead concentrations between the ground surface and the 3-foot depth.

VIII. REMEDIAL ALTERNATIVE EVALUATION

The Feasibility Study for the Hebelka site screened a number of alternatives that could potentially achieve the remedial objective of concern, which is to reduce contaminant levels in onsite soils to levels that eliminate unacceptable risk to human health and the environment (see Remedial Action Objectives).

All alternatives were evaluated using the following criteria:

* Protection of public health and the environment
* Compliance with applicable or relevant and appropriate requirements (ARARs)
* Long term effectiveness and permanence
* Reduction of waste mobility, toxicity, and volume
* Short term effectiveness
* Implementability
* Community acceptance
* State acceptance
* Cost

These criteria were derived from the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) of CERCLA and the Superfund Amendments and Reauthorization Act of 1986 (SARA). The criteria relate directly to factors mandated in Section 121 (b) (1) (A-G) of SARA. Utilizing these criteria, certain alternatives were eliminated during the preliminary screening process. The eliminated alternatives and the primary reasons for their elimination may be found in the FS. Table 4 presents an outline of the alternatives that remain after the preliminary screening. Table 4 also presents the analysis of the remaining alternatives according to the criteria listed above.

Alternative 1 - No Action

All alternatives considered must be judged against a "No Action" alternative as required by SARA. This alternative involves taking no actions at the Hebelka Auto Salvage Yard site to remediate contaminated media. It does, however, include provisions for installing a fence around the perimeter of contaminated areas, as well as annual ground water monitoring and site inspection.

Effectiveness

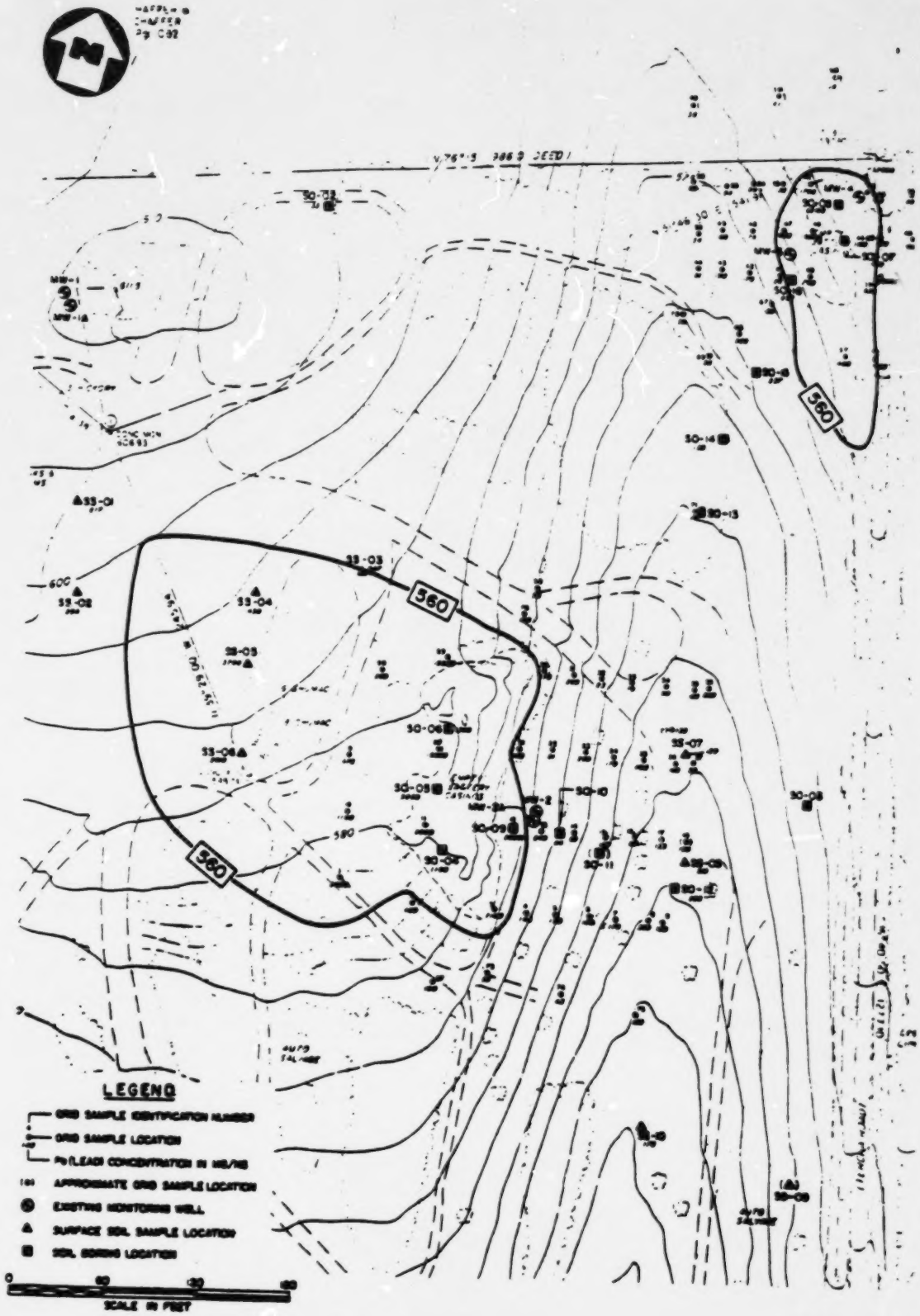


FIGURE 4

WESTERN AND EASTERN BATTERY PILES
560 mg/kg CONTOUR
HEBELKA SITE, LEHIGH CO., PA

TABLE 4

REMEDIAL ALTERNATIVE ASSESSMENT SUMMARY
REBELKA SITE, LEHIGH COUNTY, PENNSYLVANIA

Assessment Factors	ALTERNATIVE 1 No Action	ALTERNATIVE 2 Capping	ALTERNATIVE 3 Excavation and Offsite RCRA Landfilling	ALTERNATIVE 4 Excavation, Fixation, and Offsite Disposal	ALTERNATIVE 5 Excavation, Acid Leaching, and Disposal
Description	Install fence around perimeter of contaminated soil and batteries.	2A: Place 2.5 foot cap over contaminated soil and batteries. 2B: Same as above for soil. Ship batteries to recycler.	3A: Excavate contaminated soil and batteries and ship both to offsite RCRA hazardous waste facility. 3B: Same as above for soil. Ship batteries to recycler.	4A: Excavate contaminated soil and batteries; fix contamination with Portland cement or lime based process; place fixed matrix in offsite landfill. 4B: Same as above for soil. Ship batteries to recycler.	5A: Excavate contaminated soil and batteries; acid-leach lead contamination from wastes; return cleaned materials to the site ground surface; offsite treatment and disposal of process residuals. 5B: Same as above for soil. Ship batteries to recycler.
Short-Term Effectiveness	Ingestion and dermal contact potential continues.	Dust potentially generated during placement of clean cap material. Minimum dust will be generated from in place contaminated soil as a result of construction traffic during cap placement. Dust suppression and worker respiratory and dermal protection may be required.	Dust potentially generated by excavation of contaminated material. Dust suppression and worker respiratory and dermal protection may be required. Minimal community disruption from traffic generated by offsite transport of hazardous materials. While there is a possibility of a transportation accident, the probability is low; the chance of a transportation accident presenting a threat to public health and the environment is also low.	Dust potentially generated by excavation of contaminated material, material handling during the fixation process. Dust suppression and worker respiratory and dermal protection may be required. Minimal community disruption from traffic generated by offsite transport of hazardous materials. While there is a possibility of a transportation accident, the probability is low; the chance of a transportation accident presenting a threat to public health and the environment is also low.	Dust potentially generated by excavation of contaminated materials, materials handling during treatment, and the replacement of material on the site. Dust suppression and worker respiratory and dermal protection may be required. Same as Alternative 3 Same as Alternative 3

TABLE 4
REMEDIAL ALTERNATIVE ASSESSMENT SUMMARY
HEBELKA SITE, LEHIGH COUNTY, PENNSYLVANIA
PAGE TWO

Assessment Factors	ALTERNATIVE 1 No Action	ALTERNATIVE 2 Capping	ALTERNATIVE 3 Excavation and Offsite RCRA Landfilling	ALTERNATIVE 4 Excavation, Fixation, and Offsite Disposal	ALTERNATIVE 5 Excavation, Acid Leaching, and Disposal
Short-Term Effectiveness (continued)		Potential for cap erosion until vegetative cover develops. Erosion control measures necessary. Estimated construction duration: 1 month.	Potential for erosion of exposed contaminated soil during construction. Erosion control measures necessary. Estimated construction duration: 1 month.	Potential for erosion of exposed contaminated soil during construction. Erosion control measures necessary. Estimated construction duration: 3 months.	Potential for erosion of exposed contaminated soil during construction. Erosion control measures necessary. Estimated construction duration: 3 months.
Long Term Effectiveness	Ingestion and dermal contact potential continues.	Major reduction in the potential for ingestion or dermal contact of contaminants. Exposure potential may occur via cap erosion or unauthorized excavation. Periodic inspection and maintenance required. The need for eventual cap replacement is directly related to the thoroughness of the inspection and maintenance program.	Eliminates the potential for ingestion or dermal contact of remediated contaminants. No potential for future exposure to remediated materials. No periodic inspection and maintenance or replacement required.	Major reduction in the potential for ingestion or dermal contact of contaminants. No potential for future exposure to remediated materials. No periodic inspection and maintenance or replacement required.	Eliminates the potential for ingestion or dermal contact of remediated soil and casings. No potential for future exposure to remediated soil and casings. No periodic inspection and maintenance or replacement required. Long-term effectiveness depends on proper treatment of wastewater generated by the leaching process.

TABLE 4
REMEDIAL ALTERNATIVE ASSESSMENT SUMMARY
HEBELKA SITE, LEHIGH COUNTY, PENNSYLVANIA
PAGE THREE

Assessment Factors	ALTERNATIVE 1 No Action	ALTERNATIVE 2 Capping	ALTERNATIVE 3 Excavation and Offsite RCRA Landfilling	ALTERNATIVE 4 Excavation, Fixation, and Offsite Disposal	ALTERNATIVE 5 Excavation, Acid Leaching, and Disposal
Reduction of Toxicity, Mobility, or Volume	No reduction in toxicity, mobility or volume with respect to the site and the contaminated materials.	No reduction in toxicity of contaminated materials. Mobility reduced. Properly maintained cap will eliminate ingestion and dermal contact routes. Reduced quantities of storm water would contact contaminated materials since a major fraction of storm water would become surface runoff. Volume reduced if battery materials are recycled.	No reduction in toxicity of contaminated materials. Mobility reduced by confinement in RCRA facility. No exposure paths remain on the site. Volume reduced if battery materials are recycled.	No reduction in toxicity of contaminated materials. Mobility reduced. Confinement of contaminated materials in fixed matrix and burial in sanitary landfill will eliminate ingestion and dermal contact routes. Minimum contact with storm water. Synthetic liners will essentially eliminate storm water infiltration contact with contaminated materials. Nearly all storm water will run off. Volume will increase with the addition of materials (e.g., Portland cement or lime) to fix contaminants. Recycling batteries will minimize the volume increase or result in a modest net decrease.	Toxicity of soil and battery material reduced to acceptable levels. Treatment process generates contaminated wastes (e.g., spent acid, sludge) requiring treatment and disposal. Toxicity of these wastes depend on treatment process. Mobility of onsite contamination essentially eliminated. Lead from treated wastewater may or may not be mobile, depending on form. Following treatment, no contaminated soil or casings volume will exist. Volume of lead contaminated residual material will depend on the treatment processes selected.
Implementability	Easily implemented.	Easily constructed.	Easily implemented.	Excavation easily implemented. Fixation process requires specialized equipment and labor. Space is available for fixation process operation. Bench scale tests needed to verify site-specific suitability of fixation	Excavation easily implemented. Strong acids required for this process. Process not commercially proven. Bench scale tests a necessity. Pilot scale tests advisable. Necessary specialized mobile equipment may not be available. Site-specific treatment facility may need to be constructed. Space is available on the site for both process operation and disposal of treated materials. Process residual materials require treatment and disposal

TABLE 4
REMEDIAL ALTERNATIVE ASSESSMENT SUMMARY
HEBELKA SITE, LEHIGH COUNTY, PENNSYLVANIA
PAGE FOUR

Assessment Factors	ALTERNATIVE 1 No Action	ALTERNATIVE 2 Capping	ALTERNATIVE 3 Excavation and Offsite RCRA Landfilling	ALTERNATIVE 4 Excavation, Fixation, and Offsite Disposal	ALTERNATIVE 5 Excavation, Acid Leaching, and Disposal
Implementability (continued)		Battery excavation and shipment to a recycler will be implemented.	Same as Alternative 2.	Same as Alternative 2.	Same as Alternative 2.
		Additional remedial action in connection with capped materials would require disturbing the cap. If needed, other areas of the site could be subjected to remedial activities without disturbing the cap.	If needed, other areas of the site could be subjected to remedial activities with no adverse impact on this alternative.	Additional remedial action on the fixed contaminated materials is likely to be time consuming and expensive. If needed, other areas of the site could be subjected to remedial activities without adversely impacting the disposed fixed materials.	Same as Alternative 3.
		Monitoring would require periodic visual inspection of cap integrity and groundwater monitoring. Probability of human and environmental exposure and the attendant risk between inspections are minimal.	No monitoring required.	No monitoring required.	No monitoring required. The contaminant concentration in treated material would be verified by chemical analysis prior to disposal.
		No regulatory permits are anticipated regarding onsite activities.	Same as Alternative 2.	Same as Alternative 2.	Same as Alternative 2.
		A battery recycler would need either a RCRA Treatment, Storage, or Disposal (TSD) permit, or "recycler" status.	Same as Alternative 2	Same as Alternative 2	Same as Alternative 2
		Hazardous wastes/materials transported offsite will require manifests and licensed haulers pursuant to RCRA.	Same as Alternative 2 Offsite RCRA disposal facility must be permitted.	Same as Alternative 2 Offsite disposal facility must be permitted by State.	Same as Alternative 2

TABLE 4
REMEDIAL ALTERNATIVE ASSESSMENT SUMMARY
REBELKA SITE, LEHIGH COUNTY, PENNSYLVANIA
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Assessment Factors	ALTERNATIVE 1 No Action	ALTERNATIVE 2 Capping	ALTERNATIVE 3 Excavation and Offsite RCRA Landfilling	ALTERNATIVE 4 Excavation, Fixation, and Offsite Disposal	ALTERNATIVE 5 Excavation, Acid Leaching, and Disposal
Cost:					
Without Battery Recycle ($40 mg/kg lead in soil)					
Capital	$39,310	$389,532	$4,487,133	$6,884,652	$11,211,906
O&M	$2,000	$6,480	$0	$0	$0
Present Worth	$84,000	$488,000	$4,487,000	$6,884,652	$11,212,000
With Battery Recycle ($40 mg/kg lead in soil)	Same				
Capital		$356,265	$3,525,432	$6,073,436	$11,151,035
O&M		$6,480	$0	$0	$0
Present Worth		$456,000	$3,525,000	$6,073,436	$11,151,000

TABLE 4
REMEDIAL ALTERNATIVE ASSESSMENT SUMMARY
HEBELKA SITE, LEHIGH COUNTY, PENNSYLVANIA
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Assessment Factors	ALTERNATIVE 1 No Action	ALTERNATIVE 2 Capping	ALTERNATIVE 3 Excavation and Offsite RCRA Landfilling	ALTERNATIVE 4 Excavation, Fixation, and Offsite Disposal	ALTERNATIVE 5 Excavation, Acid Leaching, and Disposal
Compliance with ARARs		Fugitive dust during remediation: • Clean Air Act of 1976 • Pennsylvania Air Pollution Control Regulations	Same as Alternative 2	Same as Alternative 2	Same as Alternative 2
		Worker protection during remediation: • OSHA (29 CFR, Parts 1910, 1926) • TLVs for airborne contaminants	Same as Alternative 2	Same as Alternative 2	Same as Alternative 2
		Erosion control during remediation: • Pennsylvania Erosion Control Regulations (PA Code Title 25, Chapter 102)	Same as Alternative 2	Same as Alternative 2	Same as Alternative 2
		Battery recycling(disposal): • RCRA requirements regarding hazardous waste generation, transportation, and receipt. • Federal DOT regulations regarding hazardous waste transportation.	Same as Alternative 2	Same as Alternative 2	Same as Alternative 2
		Basis for action-level concentrations (limits of remediated soil): • RfD for lead in soil.	Same as Alternative 2	Same as Alternative 2	Same as Alternative 2

TABLE 4
REMEDIAL ALTERNATIVE ASSESSMENT SUMMARY
REBELKA SITE, LEHIGH COUNTY, PENNSYLVANIA
PAGE SEVEN

Assessment Factors	ALTERNATIVE 1 No Action	ALTERNATIVE 2 Capping	ALTERNATIVE 3 Excavation and Offsite RCRA Landfilling	ALTERNATIVE 4 Excavation, Fixation, and Offsite Disposal	ALTERNATIVE 5 Excavation, Acid Leaching, and Disposal
Compliance with ARARs (continued)		ARAR waiver is not required. Refer to text of this document for additional ARARs.	Pending "land ban" provisions to RCRA, due on 5/8/90, may preclude direct disposal of the contaminated soil and casings without pretreatment. If these wastes are precluded, an ARAR waiver (or pretreatment) will be required to implement this alternative after 5/8/90. Refer to text of this document for additional ARARs.	Same as Alternative 2 Refer to text of this document for additional ARARs.	Same as Alternative 2 Refer to text of this document for additional ARARs.
Overall Protection	Provides limited control of risk of ingestion and dermal contact. Deed restrictions required.	Risk of ingestion and direct contact controlled by soil cap. Cap integrity controlled by periodic inspection and maintenance as well as deed restrictions.	Risk from onsite contamination eliminated.	Risk of ingestion and direct contact controlled by contaminants being confined in fixed matrix and additionally by landfill.	Risk from onsite contamination eliminated.
State and Community Acceptance	The State and the Community do not accept this alternative.	No comments were received for this alternative.	This alternative is acceptable to the Community.	The State and the Community accept this alternative.	No comments were received for this alternative.

This alternative is not considered effective in the short and long term, as ingestion of lead contained in the soil and casings remains a viable pathway. Since continued ingestion of lead is possible, this alternative is not protective of public health and the environment.

Reduction or Mobility, Toxicity, or Volume:

The no-action alternative does not achieve the statutory preference for remediations that permanently and significantly reduce toxicity, mobility, or volume of the hazardous substance, lead, found at the site.

Cost:

The present worth cost estimates for this alternative range between $84,000 and $108,000.

Implementability:

The annual ground water monitoring and site inspection of the no-action alternative will be easily implemented.

Compliance with ARARs:

The no-action alternative would not comply with the applicable or relevant and appropriate requirements for a CERCLA cleanup.

State and Community Acceptance:

The no-action alternative is not acceptable to the State or the community because this alternative would leave contamination onsite.

Alternative 2 - Capping

This alternative involves capping the two areas of contaminated soil where lead exceeds the cleanup goal of 560 parts per million with 24 inches of imported soil and 6 inches of topsoil to eliminate the ingestion and direct contact exposure pathways. The battery casings will be shipped offsite for recycling. In addition to eliminating the ingestion and direct contact pathways, the soil cap will also significantly reduce air emissions, infiltrating precipitation, and surface runoff from the contaminated material.

Short-term Effectiveness:

During the cap placement (and battery casing excavation and transport), dust may be generated. Fugitive dust control procedures, e.g., wetting, may be required. If dust generation is significant at the site, workers will be required to wear personal protective equipment during activities where they may be exposed. Exposure of the nearby community is not anticipated. There is the potential

for erosion of the capping material until the vegetation program becomes effective. Erosion control measures will be implemented to minimize the erosion potential.

It is estimated that cap placement will be completed one month after the remedial contractor has mobilized at the site.

Long-term Effectiveness:

If the cap is properly placed and maintained, the ingestion and direct contact pathways will be eliminated in the long term. The surface water and ground water pathways are not believed to be of concern at the site. However, if the cap is disturbed by future activities at the site, there is the potential for human exposure to the contaminated soil.

To ensure that the cap remains effective, periodic inspections (and maintenance, if necessary), will be required. Periodic maintenance of the cap is expected to be required. Inspections and maintenance will be the responsibility of the Commonwealth of Pennsylvania. Five-year reviews of this remedy, if implemented, will also be required under section 121(c) of CERCLA. Deed restrictions will also be required to ensure that the cap is undisturbed, and is not used for farming and gardening.

Reduction of Mobility, Toxicity, or Volume:

Although this alternative does not include treatment of the contaminated material, Alternative 2 will reduce the mobility of the lead contaminant for the direct contact by ingestion, air, surface runoff, and ground water pathways by reducing infiltration from precipitation. Since treatment of the waste is not a principal element of this alternative, Alternative 2 does not meet the preference for remedial actions that reduce toxicity, mobility, or volume expressed in Section 121(b)(1) of CERCLA.

Implementability:

The technologies proposed for this alternative are all demonstrated and commercially available. Since all of the remediation will occur onsite, no permits are anticipated to be necessary. See CERCLA Section 121(e).

A water supply for dust control and cap vegetation will need to be developed under this alternative.

Cost:

Estimated costs for potential remedial alternatives are summarized in Table 4. Present worth cost estimates for Alternative 2 range from $409,000 to $456,000; the greater cost reflects the additional cost of disposal of the battery casings if recycling is impractical because of the unavailability of a vendor. It has been

assumed that recycling of the battery casings will require expenditures only for excavation and hauling. The cost estimates do not anticipate either payments to a recycler for accepting the battery casings or payments by the recycler in exchange for the casings.

Compliance with ARARs:

The only contaminant-specific ARARs pertinent to the capping remedial alternative is the NAAQ standard for lead, which is codified in the Clean Air Act of 1976 and the Pennsylvania Air Pollution Control Regulations. As stated above, water sprays are will be be used to control fugitive dust emissions. By this method the accepted standard is not exceeded.

No location-specific ARARs will be activated by the proposed remedial alternative.

Several action-specific ARARs will be applicable or relevant and appropriate for capping remediation. All onsite workers must meet the requirements of OSHA under 29 CFR, Parts 1910, 1926, and 1904. Additionally, worker exposure to air contaminants must be kept below allowable concentrations (threshold limit values) set by the American Conference of Governmental Industrial Hygienists (ACGIH). Erosion control measures under the Pennsylvania Erosion Control Regulations, PA Code Title 25, Chapter 102 must be taken to reduce erosion.

RCRA capping is not an applicable requirement for wastes disposed prior to 1980 that are left on site. RCRA capping standards may be relevant and appropriate requirements that would not be met be this capping method. See U.S. EPA. 1986b. Covers for Uncontrolled Hazardous Waste Sites, EPA/540/2-85/ -002. RCRA ground water monitoring, closure and post-closure requirements are not applicable requirements for wastes disposed prior to 1980 and left on site, but may be relevant and appropriate requirements for a land disposal unit. RCRA closure and postclosure requirements would not be met by this alternative remedy. See 40 CFR Section 265, Subparts F and G; 25 PA Code Sections 75.265(n), (o).

The contents of the battery casings may exhibit the characteristic of EP Toxicity (40 CFR Section 261.24) for lead. If so, any land disposal will be subject to the land disposal restrictions of RCRA Section 3004(g), 42 U.S.C. Section 6924(g). To date, there are no land disposal restrictions applicable to characteristics wastes such as EP Toxicity lead. The statutory deadline for promulgation of such restrictions is May 1990. If treatment standards are promulgated prior to offsite disposal, the disposal of EP Toxic battery casings must meet the treatment standards.

The offsite disposal of battery casings must meet the CERCLA offsite policy, OSWER Directive No. 9834.11, Nov. 13, 1987, and CERCLA section 121(d)(3).

Overall Protection:

Exposure to the battery casings and soil onsite will be eliminated under this alternative. Therefore, the risks associated with dermal contact and ingestion will be eliminated. A periodic inspection and maintenance program as well as ground water monitoring are necessary to guarantee the continued protectiveness of this alternative.

State and Community Acceptance:

The State requested that the lead-contaminated soil be removed from the site; therefore, the State does not concur with this alternative. The community did not comment on this alternative.

Alternative 3 - Excavation and Offsite RCRA Landfilling

This alternative involves excavating the contaminated soil and transporting it for offsite disposal at a RCRA hazardous waste landfill. This alternative will eliminate the ingestion and direct contact exposure pathways.

The battery casings will be shipped offsite for recycling. If battery recycling is impractical, then the battery casings will be disposed of in a RCRA landfill. Alternative 3 will result in no material remaining onsite that could harm human health or the environment.

Short-term Effectiveness:

During the casings and soil excavation, dust may be generated. Fugitive dust control procedures, e.g., wetting, may be required. If dust generation is significant at the site, workers will be required to wear personal protective equipment during activities where they may be exposed. Exposure of the nearby community is not anticipated.

There is the potential for erosion of the disturbed soils that remain onsite, until the vegetation program becomes effective. Erosion control measures will be implemented to minimize erosion potential.

This alternative includes offsite transportation of contaminated soil and casings. As the site is located in a rural setting and there is an access to Interstate 78 within 2.3 miles of the site, minimal community description due to vehicular traffic is anticipated. The probability of a transportation accident is low. If a transportation accident were to occur, it is unlikely that a situation presenting a threat to public health and/or the environment would result, due to the nature of the contaminated material.

It is estimated that the excavation of the casings and soil

and their removal will be completed one month after the remedial contractor has mobilized at the site.

Long-term Effectiveness:

If all of the hazardous substances posing a threat to human health and the environment are removed from the site, this threat will be eliminated.

If the battery casings are recycled offsite, both the lead and plastic associated with the casings will likely be recycled. At the present time, the market for rubber casing material is soft. This material could either be used as filler, burned for its BTU value, incorporated into a rubberized asphalt roadway, or disposed in a sanitary landfill, once it has been decontaminated by the recycler.

Reduction of Mobility, Toxicity, or Volume:

Although this alternative does not include treatment of the contaminated material (unless recycling is considered treatment), the alternative will reduce the mobility of the lead contaminants by placing them in a double-lined and multi-layer capped landfill with a leachate detection system. Since treatment of the waste is not a principal element of this alternative, Alternative 3 does not meet the statutory preference for remedial actions that reduce toxicity, mobility, or volume of the soil.

Implementability:

The technologies proposed for this alternative are all demonstrated and commercially available. No permits are anticipated to be required for onsite activities. See CERCLA Section 121(e). EPA must obtain hazardous waste generator status for the site. The soil and casings shipments must be manifested and transported by a licensed hazardous waste transporter in accordance with the requirements of 25 PA Code Sections 75.262 and 75.263, and the receiving RCRA facility must be a permitted facility which satisfies the requirements of CERCLA Section 121(d)(3) and the CERCLA offsite policy, OSWER Directive No. 9834.11, Nov. 13, 1987.

A water supply for dust control and disturbed soil vegetation will need to be developed under this alternative.

Cost:

Estimated costs for potential remedial alternatives are summarized in Table 4. Present worth cost estimates for Alternative 3 range from $3,525,000 to $4,487,000; the greater cost reflects the additional cost of disposal of the battery casings if recycling is impractical.

Compliance with ARARs:

The only contaminant-specific ARARs pertinent to the excavation and offsite landfilling remedial alternative is the NAAQ standard for lead, which is codified in the Clean Air Act of 1976 and the Pennsylvania Air Pollution Control Regulations. As stated above, water sprays are will be used to control fugitive dust emissions; thus the accepted standard is not exceeded.

No location-specific ARARs will be activated by the proposed remedial alternative.

Several action-specific ARARs will be applicable or relevant and appropriate for this remedial alternative. All onsite workers must meet the requirements of OSHA under 29 CFR, Parts 1910, 1926, and 1904. Additionally, worker exposure to air contaminants must be kept below allowable concentrations (TLVs) set by the American Conference of Governmental Industrial Hygienists (ACGIH). Erosion control measures under the Pennsylvania Erosion Control Regulations, PA Code Title 25, Chapter 102, must be taken to reduce erosion.

RCRA generator, transport, TSD, and possibly recycling provisions will become action-specific ARARs for this alternative. See 25 PA Code Sections 75.262, 75.263. All offsite shipments must be properly manifested, placarded, and transported by a licensed hazardous waste transporter. The receiving facility(ies) must be a RCRA interim status or permitted facility which satisfies the requirements of the CERCLA offsite policy and CERCLA 121(d)(3). Any soils and debris left onsite must meet clean closure standards pursuant to 25 PA Code Section 75.265(t).

The contents of the battery casings may exhibit the characteristic of EP Toxicity (40 CFR Section 261.24) for lead. If so, any land disposal will be subject to the land disposal restrictions of RCRA Section 3004(g), 42 U.S.C. Section 6924(g). To date, there are no land disposal restrictions applicable to characteristics wastes such as EP toxic lead. The statutory deadline for promulgation of such restrictions is May 1990. If treatment standards are promulgated prior to offsite disposal, the disposal of EP Toxic battery casings and CERCLA soil and debris must meet the treatment standards.

The offsite disposal of battery casings and CERCLA soil and debris must meet the CERCLA offsite policy, OSWER Directive No. 9834.11, Nov. 13, 1987 and CERCLA section 121(d)(3).

Overall Protection:

Exposure to the battery casings and soil onsite will be eliminated under this "clean closure" alternative. Therefore, the risks associated with dermal contact and ingestion will be eliminated.

State and Community Acceptance:

The State commented that the lead-contaminated soil should be removed from the site; therefore, Alternative 3 is acceptable to the State. The community has not commented on this alternative.

Alternative 4 - Excavation, Fixation, and Offsite Disposal

Alternative 4 is a treatment alternative. This alternative involves excavating the contaminated material, fixing it with a Portland cement- or lime-based method, and disposing the waste matrix in an offsite sanitary landfill. This alternative will eliminate the ingestion and direct contact exposure pathways. The battery casings will be excavated and shipped offsite for recycling.

Short-term Effectiveness:

Dust may be generated during the soil excavation, site preparation and equipment setup, and landfill preparation. Fugitive dust control procedures, e.g., wetting, may be required. If dust generation is significant at the site, workers will be required to wear personal protective equipment during activities where they may be exposed. Exposure of the nearby community is not anticipated.

There is the potential for erosion of the disturbed soils that remain onsite, until the vegetation program becomes effective. Erosion control measures will be implemented to minimize erosion potential.

It is estimated that the casings and soil excavation, fixation, and waste matrix disposal will be completed within three months after the remedial contractor has mobilized at the site.

Long-term Effectiveness:

If all of the contaminated material posing a threat to human health and the environment is excavated, fixed, and disposed in a landfill offsite, this threat should be eliminated.

There are concerns about the long-term durability of the fixation waste matrix. Lead, sulfate, and clays and silts have all been reported in the literature as cement-setting retardants. Difficulties from these materials should be overcome by adjusting the cement/waste ratio upward to offset these effects.

If this remedial alternative is selected, bench-scale tests should be conducted to ensure that the wastes can (1) be fixed properly despite their large lead, sulfate, and clay and silt contents, and can (2) withstand acidic and wetting/drying degradation.

The fixation waste matrix will be hauled to an offsite landfill that the State has permitted to accept this type of waste. Permitted landfills are constructed with bottom liners

that inhibit any leachate from entering the environment and are capped with a liner to prevent rainfall infiltration from entering the landfill. The landfill will provide long term protection from potential degradation mechanisms, acidic attack, and wetting and drying.

Reduction of Mobility, Toxicity, or Volume:

Treatment of the contaminated material is a principal element of this alternative. The lead contaminants' mobility will be reduced by placing the contaminants in a cement matrix, followed by disposal in an offsite permitted municipal landfill. Since treatment of the waste is a principal element of this alternative, Alternative 4 meets the statutory preference for remedial actions that reduce toxicity, mobility, or volume.

Implementability:

The technologies proposed for this alternative are all demonstrated and commercially available. However, the proper ratio(s) of waste to cementing materials and additives has yet to be determined. Therefore, the long-term reliability of the fixation process has not been demonstrated. If bench-scale testing is conducted properly and appropriate safety factors applied (i.e., the cement/waste ratio is conservatively selected) the cement matrix should be durable in the long term.

No permits are anticipated to be required for onsite activities. See CERCLA Section 121(e). For the recycling of battery casings, EPA must obtain hazardous waste generator status for the site. Additionally, the casings shipments must be manifested and transported by a licensed hazardous waste transporter, in accordance with the requirements of PA Code Sections 75.262 and 75.263.

A water supply for dust control and the fixation process will need to be developed under this alternative.

Cost:

Estimated costs for potential remedial alternatives are summarized in Table 4. Present worth cost estimates for Alternative 4 range from $6,073,436 to $6,884,652; the greater cost reflects the additional cost of disposal of the battery casings if recycling is impractical.

Compliance with ARARs:

The only contaminant-specific ARARs pertinent to the excavation and offsite landfilling remedial alternative is the NAAQ standard for lead, which is codified in the Clean Air Act of 1976 and the Pennsylvania Air Pollution Control Regulations. As stated above, water sprays will be used to control fugitive dust emissions; thus

the accepted standard is not exceeded.

No location-specific ARARs will be activated by the proposed remedial alternative.

Several action-specific ARARs will be applicable or relevant and appropriate for this remedial alternative. All onsite workers must meet the requirements of OSHA under 29 CFR, Parts 1910, 1926, and 1904. Additionally, worker exposure to air contaminants must be kept below allowable concentrations (TLVs) set by the American Conference of Governmental Industrial Hygienists (ACGIH). Erosion control measures under the Pennsylvania Erosion Control Regulations, PA Code Title 25, Chapter 102, must be taken to reduce erosion.

The treatment of hazardous wastes in a mobile treatment unit is subject to the tank requirements of RCRA Subpart J as applicable and/or relevant and appropriate for design and operation of tanks, 40 CFR Sections 264.111 to 264.114, closure and post-closure care requirements for tanks under 40 CFR Section 264.197 and 25 PA Code Section 75.264(r); and RCRA closure and post-closure requirements under 40 CFR Section 265 Subpart G and PA Code Section 75.265(o).

The solidification treatment process will result in changing an EP toxic RCRA characteristic hazardous waste to a noncharacteristic waste. The treated waste, which is nonhazardous, is not subject to RCRA land disposal restrictions at the present time and will be disposed of in a Subtitle D State permitted solid waste landfill.

Characteristic wastes will be restricted from land disposal without prior treatment as part of the Hazardous and Solid Waste Amendments, Land Disposal Restrictions (LDRs). The statutory deadline to establish treatment standards for CERCLA soil and debris that includes characteristic waste is May 1990. If the treatment standards are promulgated prior to offsite disposal of the treated wastes from this site, LDR will be an applicable requirement. The fixation technology included as part of this alternative represents one of the best available technologies for metals contaminated soils. This technology must comply with the LDRs for characteristic wastes once they are promulgated by either meeting the treatment standards or by obtaining a treatability variance.

The offsite disposal of CERCLA soil and debris is subject to the requirements of the EPA's Office of Solid Waste and Emergency Response's (OSWER) Revised Procedures for Implementing Offsite Response Actions Policy, OSWER Directive No. 9834.11, Nov. 13, 1987, and CERCLA Section 121(d)(3). EPA should make a determination that there are no environmentally significant releases at the Subtitle D landfill prior to the landfill's acceptance of the CERCLA nonhazardous waste.

The contents of the battery casings may exhibit the characteristic of EP Toxicity (40 CFR Section 261.24) for lead. If so, any land disposal will be subject to the land disposal

restrictions of RCRA Section 3004(g), 42 U.S.C. Section 6924(g). To date, there are no land disposal restrictions to applicable to characteristics wastes such as EP Toxicity lead. The statutory deadline for promulgation of such restrictions is May 1990. If treatment standards are promulgated prior to offsite disposal, the disposal of EP Toxic battery casings and CERCLA soil and debris must meet the treatment standards.

The offsite disposal of battery casings must meet the CERCLA offsite policy, OSWER Directive No. 9834.11, Nov. 13, 1987 and CERCLA section 121(d)(3).

Action-specific ARARs under RCRA, which are applicable to offsite transportation of the battery casings for recycling are RCRA transporter requirements in 25 PA Code Section 75.263 and 75.263.

Any soils and debris left onsite must meet clean closure standards pursuant to 25 PA Code Sections 75.265(o) and (t).

Overall Protection:

Exposure to the battery casings and soil onsite will be eliminated under this alternative. Therefore, the risks associated with dermal contact and ingestion will be eliminated.

This alternative will seal the waste materials in a cement casing; and thereby reduce the EP toxicity of the lead in the soil. The process of fixation will transform the soil from a hazardous to a solid waste. The material will then be transported offsite and deposited into a Subtitle D State permitted landfill.

State and Community Acceptance:

The State requested that the lead-contaminated soil be removed from the site; therefore, Alternative 4 is acceptable to the State. The community has not commented on this Alternative.

Alternative 5 - Excavation, Acid Leaching, and Disposal

Alternative 5 is also a treatment alternative. This alternative involves excavating the contaminated materials, leaching the lead contaminants with fluosilicic acid in a mobile treatment unit, and returning the leached ("treated") soil to the site for disposal on the ground surface.

The fluosilicic acid process involves pretreating the excavated materials with an ammoniacal solution to convert lead oxides and sulphate to lead carbonate, acid leaching the lead carbonate with fluosilicic acid, electroplating the dissolved lead for recycling, further leaching of the soil with nitric acid to remove metallic lead, and wastewater treatment of the ammoniacal, fluosilicic acid bleed, and nitric acid solutions. The soil may have to be neutralized

prior to disposal. All wastewater will be hauled offsite for treatment and disposal.

The alternative, if successful, will provide a "clean closure" for the site. See 40 CFR Sections 265.111 and 265.258; 25 PA Code Section 75.265(t). The ingestion and direct contact exposure pathways will be eliminated. The battery casings will be shipped offsite for recycling.

Short-term Effectiveness:

The short-term effectiveness of this alternative depends on the treatment and disposal of lead-contaminated waste streams from the the acid leaching treatment process. The treatment and disposal of the waste streams are included in the remedial alternative as offsite activities.

Dust may be generated during the battery casings and soil excavation, site preparation and equipment setup, and clean soil disposal. Fugitive dust control procedures, e.g., wetting, may be required. If dust generation is significant at the site, workers will be required to wear personnel protective equipment during activities where they may be exposed. Exposure of the nearby community is not anticipated.

It is estimated that the casings and soil excavation, leaching, and "clean" material disposal will be completed within three months after the remedial contractor has mobilized at the site.

Long-term Effectiveness:

If all of the contaminated soil and casings posing a threat to human health and the environment is excavated and has its lead content removed by leaching, the threat from this material should be eliminated. It is currently anticipated that any "hazardous" waste-bearing sludges generated by the wastewater treatment process will be disposed of offsite in an appropriate manner, eliminating any potential future onsite risk from this material.

The likelihood that acid leaching will meet the remedial action objectives at the site cannot be predicted. Fluosilicic acid leaching has only been conducted at one site (the United Scrap Lead [USL] site in Ohio), and only on a bench scale (Phillips, 1988). The soil there was generally much more contaminated than the Hebelka soil. Typically, process recovery efficiencies are higher for more contaminated soils, so the 99 percent recovery efficiency of bench-scale tests at USL may not be directly transferable.

The Hebelka soils probably have a higher silt and clay content than the USL soils. It may prove harder to leach lead from soils with a high clay content than other soils. This phenomenon was noticed with ethylenediaminetetraacetic acid (EDTA), and was attributed to binding strength and steric hindrance.

The U.S. Bureau of Mines (USBM) reduced the soil lead concentration to 400 mg/kg in the bench-scale tests at USL. USBM believes the remaining lead is metallic (from chips off the battery posts and grids), and could be removed by leaching with a stronger solution of nitric acid than that used in the bench-scale tests.

Typically, bench-scale testing under laboratory conditions give optimal contaminant removal efficiencies. The lead removal efficiency in the field at Hebelka may be much less than that experienced in the lab at USL, especially if the clays and silts at Hebelka interfere with the process.

Another potential problem is that existing mobile equipment may not be designed to withstand fluosilicic acid. This acid is so strong that it will dissolve glass. If existing equipment is not suitable for this process, special equipment may have to be designed and built.

The most contaminated soil sample at Hebelka contained 65,100 mg/kg lead. To reduce this concentration to 560 mg/kg lead, 99.1 percent removal efficiency would be required. The average soil lead concentration is much lower than the above figure. Of the 48 samples where lead was positively detected at the site, the average lead concentration was 1,692 mg/kg. This figure includes samples with lead concentrations below the proposed remedial action levels. If the average lead concentration of soil to be remediated is 2,000 mg/kg, 72 percent removal efficiency would be required to achieve soils concentrations of 560 mg/kg.

Intuitively, acid leaching with acids other than fluosilicic acid should be effective on contaminated material with an average lead content of 2,000 mg/kg. However, no references were identified in the literature to provide a degree of confidence that the lead remedial action level can be achieved by acid leaching with any other acid. Benchscale tests should be performed prior to implementing and acid leaching remedy at the Hebelka Site.

Reduction of Mobility, Toxicity, or Volume:

Treatment of the contaminated material is a principal element of this alternative. The toxicity of the contaminated soil and casings will be reduced by removing the majority of lead from them prior to disposal back on site. The removed lead will either be electroplated for recycling or precipitated for disposal in a secure landfill. Thus, the volume of lead-contaminated material will also be substantially reduced. The toxicity, mobility, and volume of the precipitated lead will be a function of the precipitation process selected. Since treatment of the waste is a principal element of this alternative, Alternative 5 meets the statutory preference for remedial actions that reduce toxicity, mobility, or volume.

Implementability:

As presented in this section, there are several unknowns associated

GENERAL GUIDANCE DOCUMENTS *

1) "Promulgation of Sites from Updates 1-4," Federal Register, dated 6/10/86.

2) "Proposal of Update 4," Federal Register, dated 9/18/85.

3) Memorandum to U. S. EPA from Mr. Gene Lucero regarding community relations at Superfund Enforcement sites, dated 8/28/85.

4) Groundwater Contamination and Protection, undated by Mr. Donald V. Feliciano on 8/28/85.

5) Memorandum to Toxic Waste Management Division Directors Regions I-X from Mr. William Hedeman and Mr. Gene Lucero re: Policy on Floodplains and Wetlands Assessments for CERCLA Actions, 8/6/85.

6) Guidance on Remedial Investigations under CERCLA, dated 6/85.

7) Guidance on Feasibility Studies under CERCLA, dated 6/85.

8) "Proposal of Update 3," Federal Register, dated 4/10/85.

9) Memorandum to Mr. Jack McGraw entitled "Community Relations Activites at Superfund Sites - Interim Guidance," dated 3/22/85.

10) "Proposal of Update 2," Federal Register, dated 10/15/84

11) EPA Groundwater Protection Strategy, dated 9/84.

12) Memorandum to U.S. EPA from Mr. William Heckman, Jr. entitled "Transmittal at Superfund Removal Procedures - Revision 2," dated 8/20/84.

13) "Proposal of Update 1," Federal Register, dated 9/8/83.

14) Community Relations in Superfund: A Handbook (interim version), dated 9/83.

15) "Proposal of First National Priority List," Federal Register, dated 12/30/82.

16) "Expanded Eligibility List," Federal Register, dated 7/23/82.

17) "Interim Priorities List," Federal Register, dated 10/23/81.

18) Uncontrolled Hazardous Waste Site Ranking System: A User's Manual (undated).

19) Field Standard Operating Procedures - Air Surveillance (undated).

20) Field Standard Operating Procedures - Site Safety Plan (undated).

* Located in EPA Region III office.

COMMUNITY INVOLVEMENT
Community Relations Plans

1) Report: Revised Final Community Relations Plan, Hebelka Site, Weisenberg Township, Lehigh County, Pennsylvania, prepared by Ms. Carrie C. Dietzel, EBASCO Services, Inc., 3/17/88. P. 1-18.

EPA WORK ASSIGNMENT NO. 120-3LJ4
CONTRACT NO. 68-01-7250

EBASCO SERVICES INCORPORATED

DRAFT
RESPONSIVENESS SUMMARY

HEBELKA AUTO SALVAGE [illegible] SITE
WEISENBERG TOWNSHIP
LEHIGH COUNTY, PENNSYLVANIA

MARCH 1989

This Responsiveness Summary documents concerns and comments regarding proposed remedial actions for the Hebelka Auto Salvage Yard Site as the comments and concerns were expressed to the US Environmental Protection Agency (EPA) by members of the community surrounding the site. The remarks were presented during the public comment period, and they addressed EPA's draft Remedial Investigation/Feasibility Study (RI/FS) report and a Proposed Plan to remediate contamination associated with two piles of battery casings located on site. In addition to summarizing public comments, this document also summarizes EPA's responses to the comments and concerns expressed.

The Responsiveness Summary is organized as follows:

1.0 Overview
2.0 Summary of Community Involvement
3.0 Summary of Comments and Responses Regarding the Proposed Plan for Hebelka Auto Salvage Yard Site
4.0 Remaining Concerns

Attachments:

A. List of Community Relations Activities
B. EPA Fact Sheet - Hebelka Auto Salvage Yard

1.0 OVERVIEW

The public comment period for the Hebelka Auto Salvage Yard Site began on February 23, 1989, and extended to March 26, 1989. At the request of legal counsel for the Hebelka family, and to facilitate public commenting, EPA held a public meeting at the Weisenberg Township Municipal Building in Fogelsville, Pennsylvania on March 23, 1989. Approximately twenty members of the public attended, and from the general tone of the meeting, most of these appeared to be members or supporters of the Hebelka family.

At the meeting, EPA discussed the Superfund process, the availability of site-related documents, and the purpose and duration of the public comment period. A technical presentation, describing the Remedial Investigation (RI) and its results, was also presented. EPA explained that the focus of the Agency's Proposed Plan was the battery-casing piles located onsite and the extremely high levels of lead contamination found in underlying and adjacent soils. EPA also explained that additional sampling of offsite surface water and sediment will be conducted in the near future to determine whether lead contamination from the site has migrated beyond the site boundaries.

The preferred alternative outlined by EPA for addressing the battery casings and associated lead contamination would involve removal of the battery casings, excavation of contaminated soil, fixation of contaminated soil with a cement-like bonding agent, and disposal of the stabilized soils at a permitted, offsite landfill. An attempt would also be made to recycle the battery casings; however, if this should prove to be impossible, the casings would be disposed at a permitted hazardous waste landfill. This alternative would meet federal Superfund requirements by permanently reducing the volume of contaminated materials at the site and by decreasing the mobility and toxicity of the contaminated soils to levels that meet public health and environmental standards.

2.0 SUMMARY OF COMMUNITY INVOLVEMENT

In 1986, the Hebelka Auto Salvage Site was proposed for inclusion on the National Priorities List, and the EPA published public notices in the most widely read local newspapers to alert members of the community concerned. Neither EPA nor local officials recall receiving any inquiries about the site.

Interviews with residents, whose properties adjoin the site, were conducted by EPA in mid 1987. At that time, varying levels of site awareness were revealed ranging from no knowledge of the site to concerned awareness. Most residents stated that they would like to be apprised of site-related developments and of the project schedule. No citizens' groups developed to monitor site-related activities. Local officials' concerns, in mid-1987, focused on the remedial project schedule and the potential future-use restrictions that may encumber the site following cleanup activities.

3.0 SUMMARY OF COMMENTS AND RESPONSES REGARDING THE PROPOSED PLAN FOR THE HEBELKA AUTO SALVAGE YARD SITE

This section summarizes issues and concerns expressed by the public and EPA's responses to them. The issues and concerns raised were considered by EPA in the final decision-making process associated with the selection of a remedial alternative to address the onsite battery-casing piles and related contaminants. All of the comments summarized below were presented during the question-and-answer portion of the public meeting, and more than 70 percent of them were presented either by individuals with the surname Hebelka or by legal counsel for the Hebelka family.

Comments and concerns were grouped into the following general categories:

A. Cost/Necessity of Proposed Remediation
B. Extent of Contamination and Pathways of Migration
C. Possibility of Contaminant Sources Unrelated to Hebelka Site
D. The Proposed Remedial Alternative
E. Risks Associated with the Site
F. Liability Associated with the Site
G. EPA Superfund Program

A. Cost/Necessity of Proposed Remediation

Numerous statements were made by the Hebelkas, their attorney, and other area residents regarding projected costs associated with the Superfund remediation of the Hebelka site and the nearby Reesers Landfill site:

1) **Comment:** EPA has spent $1 million on the Reesers site, located half a mile from the Hebelka site, and approximately $600,000 on the Hebelka RI/FS. Implementation of the Proposed Plan at the Hebelka site is expected to cost an additional $5 million, yet it is uncertain that the remedial actions will improve conditions. Several individuals said this was too much money to spend without a guarantee of benefit and with no clear determination that contamination is actually migrating from the battery casings. They questioned whether it represents responsible use of taxpayers' money to address problems that are merely "potential" problems.

EPA Response: It is not true to say that implementation of the Proposed Plan for the Hebelka site will not guarantee benefit. The preferred alternative would eliminate the battery casings and the lead-contaminated soil from the site, and consequently, health risks associated with the site would be reduced. The lead concentration levels in onsite soils are very high--up to 60,000 parts per million--and are potentially dangerous. They cannot be allowed to remain at the site because, in addition to posing a risk of exposure now, there is no way of knowing how the site may be used in the future. There is no way to assure that future users of the site will not be threatened by lead contamination, if it is allowed to remain in its present location.

EPA will conduct additional surface water, sediment, and groundwater sampling in the Spring to determine whether site-related contaminants are migrating from the site, as suspected. The monies in the Superfund that will be utilized are the result of a tax on the petrochemical industry and not on local residents.

2. **Comment:** A resident said that $5 million is a lot of money, and he inquired how the money will be spent and whether cleanup activities could be performed more economically by a private company, or by the site owners, than by the EPA.

   EPA Response: The reason implementing the Proposed Plan will cost so much money is that the Hebelka site is a hazardous waste site. Workers involved in the implementation activities require proper protective clothing and equipment. In addition, only a few companies are permitted to haul or dispose hazardous wastes, and in order to secure and maintain their permits, these companies must meet and sustain specific federal, state, and local requirements. They must also perform monitoring and testing procedures and upgrade their facilities and services, as requirements change and technology advances. Consequently, the cost of using services and facilities that can handle hazardous wastes is high.

   EPA hires private companies to conduct remedial activities, but the majority of the cleanup cost is for the handling and stabilization of the lead-contaminated soil, rather than for removal of the battery casings. This makes it unlikely that costs can be reduced significantly.

3. **Comment:** The Hebelka's attorney charged that EPA is acting irresponsibly in making cleanup decisions without considering the financial burden it may be placing on an individual responsible party and indicated that he believed the no-action alternative is intended to present EPA the option of doing nothing, rather than sacrificing responsible parties to financial ruin. He inquired what limitations are placed on remedial costs.

   EPA's Response: There is no authority written into the laws governing Superfund that says the financial responsibility of the Potentially Responsible Parties (PRPs) must be considered before EPA takes remedial action. EPA is considering actions for the Hebelka site because of the high concentrations of lead found in the soil. Whether or not the site currently poses a public health risk, it poses an environmental risk, and the Agency will spend whatever is necessary to clean it up.

B. <u>Extent of Contamination and Pathways of Migration</u>

1. **Comment:** Two residents inquired if EPA had sampled sediment upstream of the site and whether the Agency

planned to sample the groundwater used by residents of Haafsville, a community located about a quarter-mile downgradient of the site.

EPA Response: EPA is not going as far as Haafsville at this time, but the Agency intends to do additional sampling downgradient from the Hebelka property. If no contamination is revealed, there would be no reason to sample any further. Filtered groundwater samples taken to date have been clean, and there is no current concern for the groundwater.

Upstream samples revealed no significant lead levels in the sediments.

2. **Comment:** The Hebelka family's attorney asked several questions regarding whether EPA could show a definite link between the site and elevated lead levels in offsite sediments located downstream. He contends that the lead from the battery casings is immobile, that it does not leach, and that site-related literature indicates there is no actual problem.

   EPA Response: There is contamination. In addition to onsite soil contamination, EPA found elevated lead levels in sediments of Iron Run and in an unfiltered groundwater sample. As there are no other known sources of lead contamination in the area, the Hebelka site is most likely the source of the Iron Run sediment contamination, but a definite connection has not yet been established.

   There is definitely a problem associated with the site or the project would not be continued. The levels of lead in soils and sediment exceed the action levels established by the Agency for Toxic Substances and Disease Registry (ATSDR) and by the Centers for Disease Control (CDC). EPA must, therefore, take action.

   Although the lead found in the soil is primarily located within 30 to 60 feet of the battery casing piles, EPA believes additional sampling is required to the west of the waste piles. The lead does not appear to have leached much over time; however, lead is more mobile in an acidic environment, such as that at the site, and the potential for lead to migrate is real. EPA believes that contamination of the Iron Run sediments indicates that lead from the site has migrated in the past. If so, it could migrate again. In addition to leaching, lead could become airborne in dust, if a dry season occurred. Then it might be inhaled by humans.

3. **Comment:** A member of the Hebelka family suggested that EPA is being dishonest in saying that upstream sediments revealed no significant lead levels. He stated that contamination cannot be established by degree: medium is either contaminated or it isn't.

   EPA Response: The question of contamination is a question of degree. In drinking water, the Federal guidelines state that water containing more than 50 parts per billion is unsafe.

C. <u>Possibility of Contaminant Sources Unrelated to the Hebelka Site</u>

1. **Comment:** At numerous times during the public meeting, the question was raised, by the Hebelkas and their attorney, that sediment contamination in the Iron Run may be related to runoff from nearby Route 22 because motor vehicle emissions contain lead. The attorney reminded EPA that lead was also found in an unfiltered groundwater sample from a well located in an area adjacent to Route 22.

   EPA Response: It is true that motor vehicles emit lead. However, EPA believes that the lead levels found in the sediment and the unfiltered groundwater are too high to be attributed to highway runoff. Nevertheless, EPA will conduct additional sampling to determine if there is a connection between the contaminated media and highway runoff.

2. **Comment:** The Hebelka family's attorney questioned EPA about a groundwater monitoring well located near a culvert that directs water from an intermittent stream under the roadway to Iron Run. He suggested that groundwater test results from the well, which indicated no evidence of contamination, also suggest that surface water running from the battery casing piles through the stream is clean.

   EPA Response: The groundwater well does not indicate the condition of the surface water. What EPA has said is that sediment downstream of the culvert exhibits elevated lead levels and that it could only arrive at that location via the surface water.

3. **Comment:** The Hebelka's attorney and a family member suggested that if contaminants have migrated from the battery casing piles, they have done so because of EPA activities during the RI/FS when a bulldozer was brought onsite to move some of the casings, and a well was subsequently installed in the contaminated soils.

EPA Response: When EPA works on a site, specific safety precautions are initiated before any work is performed, and all equipment is decontaminated before it is removed from the site.

D. The Proposed Remedial Alternative

1. **Comment:** A resident wanted to know the volume of contaminated soils that EPA intends to remove from the site and what will be used for fill. Another resident wondered if groundwater monitoring would be conducted after the remedial activities concluded.

   EPA Response: EPA plans to excavate approximately 4,000 cubic yards of contaminated soils. Clean fill of a type similar to the soils removed will be used for backfill. Groundwater monitoring will continue to ensure that no lead is present.

2. **Comment:** A resident wanted to know whether EPA might consider a "dry stream" as a remedial alternative. The family attorney asked if the remedial alternative was final and what would be used to bond the soil.

   EPA Response: A "dry stream" alternative would not work. A battery company wouldn't be able to extract enough lead from the soil to make it a profitable venture.

   EPA has not yet finalized the remedial alternative selection. The Agency issued a Proposed Plan on February 24th and is currently conducting a public comment period. All comments received during that time will be considered in the decision process.

   The remedial alternative proposed by EPA will bond contaminants in the soil with a cement-like mixture. The precise proportions of this mixture, soil, and lime will be determined during treatability studies.

E. Risks Associated with the Site

1. **Comment:** Two residents were interested in human health risks and the Hebelka's attorney asked what risk the site actually poses. One of the residents wondered how many people might be harmed by the Hebelka site over the next 100 years, while the other asked what quantity of contaminated soil would have to be consumed to represent a significant risk.

EPA Comment: The risk to human health from lead contamination in its present form at the site is from direct contact and subsequent ingestion, particularly by children, and from inhalation of lead-laden dust during dry periods. Lead is known to cause central nervous system disorders and is especially hazardous to young children.

For additional information regarding toxicity and human health, write or call Dr. Richard Brunker at the EPA address given on the fact sheet distributed to each of you.

2. **Comment:** Several persons suggested that air pollution, lead water lines in the city supply system, and auto accidents pose a greater risk to human health than the Hebelka site. They concluded that it would be wiser to spend money on these problems than on the Proposed Plan implementation.

   EPA Response: Superfund is not meant to address those problems. There are other programs that do address issues such as clean air and lead in drinking water. Superfund was created by a very significant tax levied against the petrochemical industries and it is meant to be used for toxic waste site remediation. It cannot be used otherwise.

3. **Comment:** A resident asked if EPA equates Hebelka with Love Canal, and the Hebelka family attorney suggested that it is just as likely that, at some point in the future, developers may disturb the landfill site in which EPA is proposing to dispose excavated soils, as it is that those soils may be disturbed if left onsite.

   EPA Response: Hebelka is not a Love Canal, but the premise is the same. Site accessibility is not necessarily limited to what can be done in this decade.

   In the present time, facilities used for hazardous waste disposal must be licensed to accept hazardous waste and permitted by the states in which they are located. Therefore, the city, the county, the state, and the facility owner and operator all have records of the facility. These facilities are permanently recorded, and the information accompanies their deeds.

F. <u>Liabilities Associated with the Site</u>

1. **Comment:** Numerous residents expressed concerns regarding the Hebelka family's liability associated with the

site. They stated that it was unfair to hold the family responsible for the site when the hazards associated with the disposal of batteries was unknown during the years when the site was active. Some residents suggested that EPA should be pursuing the manufacturers of the batteries. One resident said that battery manufacturers should be required to recycle old batteries.

EPA Response: Liability issues are handled by the Department of Justice (DOJ) and specific negotiations between DOJ and the responsible parties are confidential. Superfund does allow EPA to attempt to recover remedial costs, and site owners can be held liable. The status of negotiations concerning the Hebelka family are between their attorney and DOJ and are unknown to EPA remedial and community relations personnel.

The Agency has attempted to find out which companies manufactured the batteries disposed on site, but there are no records to help to locate those manufacturers.

Responsible Parties (RPs) under Superfund can include site owners and operators, manufacturers and generators, and haulers who brought materials to a site. EPA may pursue any and all of these for cost recovery, but a link must be established between the site and each RP. No such links have been found for the Hebelka site.

2. **Comment:** Residents asked if the Hebelkas or the local community would be billed for the site cleanup and if EPA could take the Hebelkas' property, if costs exceed the property value.

   EPA Response: The Hebelkas' liability is not known to those of us present. It is a DOJ issue, but the local community will not be held liable. Site remediation costs far exceed property value, but EPA does not take title to property. Costs are covered by the Superfund and those costs not recovered are absorbed by the fund.

3. **Comment:** A Hebelka family member asked if EPA has a current lien against the property and what restriction will be placed on the deed after cleanup activities conclude. He also asked if there will be ongoing maintenance requirements. The family lawyer asked if the EPA spokesman would recommend the family join other litigants, if a lien has been placed against the property.

EPA Response: Although the EPA spokesman stated that a lien is likely, he was unable to state positively if one exists. He again recommended contacting the DOJ regarding both the lien and future litigation.

Regarding deed restrictions, there should not be any because the contaminated soils and the battery casings will be removed from the site. The site will be considered clean under Superfund and any maintenance that may be needed will be the state's responsibility.

G. The Superfund Process

1. **Comment:** Several questions were asked about general liability under the Superfund law. Residents wondered if a person could be held liable for a hazardous waste site that existed prior to that person's acquisition of the property.

   EPA Response: The site owner is always potentially responsible, but EPA tries to identify and locate as many RPs as possible.

2. **Comment:** A family member inquired how the Hebelka property was first identified as a possible Superfund site and whether EPA was intending to address all farm dump sites under the program. The number of sites under Superfund investigation was also requested.

   EPA Response: The details associated with listing the Hebelka site on the NPL were unknown to the EPA spokesman. He stated, however, that once a site is brought to EPA attention it must be investigated on its individual merits. Sites are not compared, and the total number does not affect the listing of new sites. Thirty-thousand sites are currently under investigation for possible NPL inclusion, but they are not all farm sites. In addition to Superfund, the federal government operates other programs that address situations which may affect public health or the environment.

3. **Comment:** The Hebelka family's lawyer inquired what would happen if additional contamination is found in Iron Creek after the site is considered to be clean. He also asked whether EPA is required to weigh the risks associated with any site against those posed by other sites.

   EPA Response: Superfund would allow EPA to deal with the contamination at that time, but EPA intends to avoid

the situation by performing an additional round of sampling to establish whether the presnt contamination in the creek is, in fact, coming from the Hebelka site or from the highway.

Superfund does not require that the risks posed by various sites be compared. Site remediation is based only on the significance of the risk at the site, and that is determined according to established criteria.

4.0 REMAINING CONCERNS

Members of the Hebelka family stated that they believe EPA has erred in placing their property on the Superfund list and charged that the Agency has singled out their property rather than pursue "real problems." One family member requested that it be entered into the record that the family intends to litigate.

ATTACHMENT A

LIST OF COMMUNITY RELATIONS ACTIVITIES

The following activities were conducted for the Hebelka Auto Salvage Yard Site:

- EPA published notices in local newspapers announcing proposal of the Hebelka site to the NPL - 1986.
- EPA conducted interviews with local residents and officials to determine the level of public interest and concern - July 1987.
- A Community Relations Plan, based on the community interviews was developed - August 1987.
- A Proposed Plan, discussing the RI/FS and EPA's preferred alternative was presented to the public - February 1989.
- Public Announcements of the Proposed Plan and a Public Meeting were published in local newspapers - February 1989.
- A Public Meeting was held - March 1989.
- A Public Comment Period regarding the Proposed Plan was held - February 1989 to March 1989.
- An Official Transcript and a Responsiveness Summary concerning the Public Meeting were prepared - March 1989.

ATTACHMENT B

SUPERFUND FACT SHEET

SUPERFUND PROGRAM FACT SHEET

U.S. EPA
MARCH 1989

HEBELKA AUTO SALVAGE YARD
LEHIGH COUNTY, PENNSYLVANIA

Introduction

The U.S. Environmental Protection Agency (EPA) has released for public comment, a draft Remedial Investigation/Feasibility Study (RI/FS) for the Hebelka Auto Salvage Yard in Weisenburg Township, PA. Based on these reports, EPA in consultation with the Commonwealth of Pennsylvania, has recommended the remedial alternative that it believes will work most effectively at the Hebelka Auto Salvage Yard.

Site Background

The Hebelka property occupies approximately 20 acres within the headwaters on the Iron Run subdrainage basin. Topographically, the property is positioned on the south site of a low, moderately steep hill north of Interstate Highway 78 and Old Route 22 (the two highways parallel each other running generally east-west) approximately 9 miles west of Allentown, Pennsylvania. Over the past 10 to 15 years, salvage activities have resulted in the accumulation of approximately 1,000 cubic yards of discarded automotive battery casings in addition to automobiles, empty storage tanks, empty drums, and miscellaneous scrap metal.

Extent of Contamination

Battery liquid and residual solid waste samples exhibited high concentrations for lead and acidity. The battery casings were subjected to the extraction test of the Resource Conservation Recovery Act (RCRA) and found to leach quantities of lead that exceeded the RCRA threshold level and, therefore, the casings are classified as hazardous material.

Background soil boring sample analyses indicate onsite, background, surface soil lead concentrations of 133 and 140 parts per million (ppm). Surface soil contamination detected on the site consists primarily of lead in soil under and near the battery piles. The deeper soil boring samples demonstrated that contamination was at or below background concentrations at depths greater than 3 feet. Lead concentrations were highest in surface soil samples collected from borings located under the battery piles (typical high values: 5,090, 15,000 and 65,100 ppm.) Above-background surface-soil lead concentrations ranging between 200 and 3,000 ppm are generally confined to areas within 30 feet of a battery pile perimeter.

EPA's risk assessment of the lead contaminated soil for the Hebelka site determined that the cleanup level for the site should be 560 ppm. All soil with levels of lead contamination over 560 ppm will be addressed under this action. This cleanup level corresponds to EPA's general policy of cleanup level of 500 ppm for lead-contaminated soil.

EPA's Preferred Alternative

After careful consideration of the proposed cleanup solutions, EPA's preferred alternative for addressing the contaminated soils is alternative 4: Excavation, Fixation, and Off-site Disposal of Contaminated Soils and Recycling the Battery Casings. Alternative 4 would permanently reduce the mobility and toxicity of the contaminated soils at the site to levels which meet public health and environmental standards, while not creating any hazardous by-products or residues which would have to be disposed of. At this time, EPA believes that the treatment technology exists to carry out the preferred alternative.

EPA will attempt to recycle the battery casings and reclaim the usable material of the casings and their contents. Should EPA subsequently find that recycling is impractical, EPA will, at such time dispose of the battery casings in a RCRA landfill.

EPA's Remaining Alternatives

EPA also considered the following alternatives:

1. No Action - eliminated from consideration because the lead contamination in the soil needs cleanup.

2. Capping - eliminated from consideration because the lead contamination would be left on site.

3. Excavation and Offsite RCRA Landfilling - eliminated from consideration because the soil would be left untreated.

4. Excavation, Acid Leaching, and Disposal - eliminated from consideration because this technology is unproven.

Community Input

On February 23, 1989 EPA placed an ad in the Morning Call newspaper announcing the alternatives for cleanup of the Hebelka Superfund Site. Residents are asked to send their written comments to:

Nanci Sinclair (3PA00)
U.S. EPA Region III
841 Chestnut Street
Philadelphia, PA 19107

or

Fran Burns (3HW21)
U.S. EPA Region III
841 Chestnut Street
Philadelphia, PA 19107

Comments are being accepted from February 23 - March 26, 1989.

with the technical feasibility of Alternative 5. It is uncertain whether mobile equipment presently exists which is capable of handling the strong acids proposed for this alternative. If mobile equipment is not presently available, process equipment will have to be designed and built.

It is unclear whether acid leaching will be able to achieve the remedial objectives on a commercial scale. At a minimum, bench-scale testing should be initiated prior to implementing this alternative, if selected. Technical problems associated with designing an effective acid leaching system could lead to schedule delays.

Acid leaching technology, especially the use of fluosilicic acid, has not been developed into a commercial process yet. The degree to which these processes are developed by the time remediation is implemented is not predictable.

While acid leaching is used in the mining industry for copper and uranium recovery, there is little acid leaching for hazardous waste remediation experience in the United States (EDTA leaching has been attempted on two site on a pilot scale). Therefore, there may be a shortage of contractors willing to competitively bid on the remediation contract.

No permits are anticipated to be required for onsite activities. See CERCLA Section 121(e). For the recycling of the battery casings, EPA must obtain hazardous waste generator status for the site. Additionally, the casings shipments must be manifested and transported by a licensed hazardous waste transporter in accordance with 25 PA Code Sections 75.262 and 75.263. A water supply for dust control, the acid leaching process, and disturbed soil vegetation will need to be developed under this alternative.

Cost:

Estimated costs for potential remedial alternatives are summarized in Table 4. Present worth cost estimates for Alternative 5 range from $11,153,000 to $11,212,000; the greater cost reflects the additional costs of disposing the battery casings if recycling is impractical.

Compliance with ARARs:

The only contaminant-specific ARARs pertinent to the excavation and offsite landfilling remedial alternative is the NAAQ standard for lead, which is codified in the Clean Air Act of 1976 and the Pennsylvania Air Pollution Control Regulations. As stated above, water sprays will be used to control fugitive dust emissions, so as not to exceed the NAAQ standard.

No location-specific ARARs will be activated by the proposed remedial alternative.

Several action-specific ARARs will be applicable or relevant and appropriate for this remedial alternative. All onsite workers must meet the requirements of OSHA under 29 CFR, Parts 1910, 1926, and 1904. Additionally, worker exposure to air contaminants must be kept below allowable concentrations (TLVs) set by the American Conference of Governmental Industrial hygienists (ACGIH). Erosion control measures under the Pennsylvania Erosion Control Regulations, PA Code Title 25, Chapter 102, must be taken to reduce erosion.

The treatment of hazardous waste in a mobile treatment unit is subject to the tank requirements of RCRA Subpart J as applicable and/or relevant and appropriate for design and operation of tanks, 40 CFR Sections 264.111 to 264.114, closure and post-closure care requirements for tanks under 40 CFR Section 264.197 and 25 PA Code Section 75.264(r), and RCRA closure and post-closure requirements, 40 CFR Section 265 Subpart G.

Residues remaining after treatment would be lead precipitates and acid filtrate. Lead precipitates will be RCRA characteristic waste (EP Toxicity) and must be disposed of in an offsite RCRA landfill. RCRA generator and transporter requirements would be applicable, 25 PA Code Sections 75.262, 75.263. Acid filtrate may be a hazardous waste and, if hazardous, will require treatment in a RCRA facility prior to disposal. Offsite treatment and/or disposal of lead precipitates and acid filtrate will have to meet RCRA land disposal restrictions, the RCRA Offsite Policy, OSWER Directive No. 9834.11, Nov. 13, 1987 and CERCLA Section 121(d)(3).

The contents of the battery casings may exhibit the characteristic of EP Toxicity (40 CFR Section 261.24) for lead. If so, any land disposal will be subject to the land disposal restrictions of RCRA Section 3004(g), 42 U.S.C. Section 6924(g). To date, there are no land disposal restrictions to applicable to characteristics wastes such as EP Toxicity lead. The statutory deadline for promulgation of such restrictions is May 1990. If treatment standards are promulgated prior to offsite disposal, the disposal of EP Toxic battery casings must meet the treatment standards.

The offsite disposal of battery casings must meet the CERCLA offsite policy, OSWER Directive No. 9834.11, Nov. 13, 1987 and CERCLA section 121(d)(3).

Any soils and debris left onsite must meet clean closure standards pursuant to 40 CFR Section 265.258, 25 PA Code Sections 75.265(o) and 75.265(t).

Overall Protection:

Exposure to the battery casings and soil on site will be eliminated under this alternative. Therefore, the risks associated with dermal contact and ingestion will be eliminated. Lead from the soil and casings will be dissolved in an acidic solution under this remedy.

This dissolved lead will either be electroplated and recycled, or precipitated and disposed of in a secure landfill. In both cases the lead will be removed from the site, allowing a "clean closure".

State and Community Acceptance:

The State and the community have not commented on this alternative.

Summary of Comparative Analysis

Alternative 1, No Action, is not protective of human health and the environment. Therefore, it should be eliminated from further consideration.

Among remaining alternatives, all are expected to be protective. However, all remaining alternatives are not expected to satisfy the preference of CERCLA Section 121(b)(1) for permanent remedies. In particular, Alternative 2, capping, and the disposal option of Alternative 3 do not meet SARA's direction for a permanent reduction to toxicity, volume, or mobility. In comparison, Alternatives 4 and 5 reduce the toxicity and mobility of the lead. Alternative 4 has a slight disadvantage in that there is a dramatic increase in volume from the fixation process.

Alternatives 4 and 5 both rate high in long term effectiveness and permanence, as the lead-contaminated soil is permanently immobilized or extracted. Similarly, alternative 3, offsite disposal, is a permanent solution to the extent that the contamination is placed in a RCRA landfill. The RCRA landfill will keep the soil dry, protected from acidic moisture, which is a condition that would leach the lead from the soil.

All alternatives have acceptable short-term impacts. The main concerns are dust and erosion. Protective measures can be designed for the remediation process to safeguard against these potential problems.

In addition, all alternatives would be designed to meet the ARARs for the site and the contamination. The soil is a RCRA Hazardous Waste but proper facilities and technology exist to handle the contamination.

Alternative 2, capping, and Alternative 3, offsite disposal, are the most implementable as they both use proven excavation and construction techniques. The process could commence immediately after designing the remediation and will conclude in approximately 6 to 12 months. In addition, the pool of contractors for this work is large, which would create competitive bids. Alternatives 4 and 5 require design studies to identify the specific process for the site. These studies would be bench- and pilot-scale and would be conducted for volume and strength of the materials used in each process. The design studies will cause a delay to the remediation

of the site and incur additional cost.

Generally, the community has not expressed a preference for any particular alternative. Rather, they are concerned that the remedy be effective and that adverse short-term impacts on human health during the remediation be prevented.

X. Selected Remedy

The selected remedy for the Hebelka Auto Savage Yard is Alternative 4: Excavation, Fixation, and Offsite Disposal.

The selected remedy comprises:

Removal of the battery casings from the property and recycling the casings. If recycling is impractical, the casing will be disposed in a RCRA landfill.

Excavation of lead-contaminated soil, fixation of the soil, utilizing a cement- or lime-based fixation process, and depositing the fixation matrix in a Subtitle D State permitted municipal landfill.

Soil backfill and revegetation.

Alternative 4 achieves the best balance in meeting the evaluation criteria. For this alternative, a treatment facility will be constructed at the site to fix the contaminated soils. A typical process for treating soils consists of mixing the soils with a cement-like fixative (cement, pozzolan, lime, clay), a reducing agent, and various proprietary chemicals. The actual additive composition and its ratio will be determined by pilot-testing during the design phase.

As required by Section 121 of CERCLA, Alternative 4 is protective of human health and the environment, reduces the volume and toxicity of contamination, will be designed to attain ARARs, and utilizes permanent solutions and alternate treatment technologies to the maximum extent practicable. In addition, the selected remedy satisfies the statutory preference for employing treatment which significantly reduces the mobility, toxicity and/or volume of hazardous substances as a principal element. This alternative is a cost-effective solution in that it achieves the Remedial Action Objectives and meets the best balance of evaluation criteria at the least cost.

This alternative achieves a long-term, permanent solution and is readily implementable. It should be noted that Alternative 5 would be similarly effective but would be twice as expensive. Alternatives 2 and 3 do not provide the reduction in toxicity, volume and/or mobility that Alternative 4 does.

The draft Feasibility Study for this site describes Alternative

4 as including the construction of an onsite landfill for the final disposal of the fixation matrix. The State of Pennsylvania commented that the fixation matrix should be disposed in a landfill permitted to accept such waste. In this Record of Decision, EPA has included the State's comments and has therefore chosen as part of the selected alternative the offsite disposal of the fixation matrix in a State Subtitle D permitted landfill.

HEBELKA SITE
ADMINISTRATIVE RECORD FILE *
INDEX OF DOCUMENTS

SITE IDENTIFICATION
Preliminary Assessment/Site Inspection Reports

1) Report: Potential Hazardous Waste Site, Preliminary Assessment, Hebelka Property, prepared by Mr. James A. Dolan, Pennsylvania Department of Environmental Resources, 6/24/85. P. 1-15.

2) Report: Site Inspection of Hebelka Property, prepared by NUS Corporation, 11/7/85. P. 16-224. References are listed on P. 94-95 and 222-223.

3) Memorandum to Ms. Vickie Province, U.S. EPA, from Mr. Mrinal K. Biswas, Roy F. Weston, Inc., re: Hebelka Property - Trip Report, 4/30/87. P. 225-233.

Correspondence and Supporting Documentation

1) Letter to Mr. Joseph Hebelka from Mr. C. F. Gitschier, Pennsylvania Bureau of Land Protection, re: Notice of violation, 7/3/78. P. 1-2.

2) Letter to Mr. George J. Kanuck, Esq., Worth Law Offices, from Mr. Carl F. Gitschier, Pennsylvania Bureau of Land Protection, re: Meeting scheduled for October 4, 1978, 9/25/78. P. 3-3.

3) Letter to Mrs. Lovie Hebelka from Mr. Michael G. Maiolie re: Transmittal of the laboratory analysis for the sample taken on October 20, 1982, 1/5/83. P. 4-5. The laboratory analysis is attached.

4) Letter to Mrs. Lovie Hebelka from Mr. Michael G. Maiolie re: Results of the laboratory analysis for the soil sample taken adjacent to the pile of battery cases, 3/3/83. P. 6-6.

* Administrative Record File available 2/28/89.

Note: Company or organizational affiliation is mentioned only when it appears in the record.

REMEDIAL ENFORCEMENT PLANNING
Potentially Responsible Party General Correspondence

1) Letter to Mr. Daniel Dellicker, East Penn Manufacturing Company, from Mr. Thomas C. Voltaggio, U.S. EPA, re: 104(e) information request, 12/12/83. P. 1-2.

2) Letter to Mr. Peter W. Schaul, U.S. EPA, from Mr. Daniel G. Dellicker, East Penn Manufacturing Company, Inc., re: Involvement with disposal of waste materials at the Hebelka property, 12/22/83. P. 3-5. The 104(e) information request is attached.

3) Letter to Ms. Patricia Tan, U.S. EPA, from Ms. Rebecca White, GCA Corporation, re: Identifying additional potentially responsible parties, 4/17/86. P. 6-7

4) Letter to Mr. Donald A. Wojton, East Penn Manufacturing Company, Inc., from Mr. Bruce P. Smith, U.S. EPA, re: Notice letter, 5/20/86. P. 8-14. A letter regarding East Penn Manufacturing Company involvement with disposal of waste materials at the Hebelka property, an envelope, and a 104(e) information request are attached.

5) Letter to Ms. Patricia M. Tan, U.S. EPA, from Mr. Wallace Putkowski, Carbon Service Corp., re: Information in reply to a letter dated June 18, 1986, 6/25/86. P. 15-19. An envelope, a certified mail receipt, and a 104(e) information request are attached.

6) Handwritten letter to Ms. Tan [sic] from Ms. Lovie M. Hebelka re: Records pertaining to the dumping of battery casings, 9/19/86. P. 20-34. The following are attached:

   a) an envelope;
   b) an information request letter addressed to Ms. Lovie Hebelka;
   c) two certified mail receipts;
   d) a notice letter addressed to Ms. Lovie Hebelka;
   e) a letter regarding involvement with Reeser's Landfill;
   f) an envelope;
   g) two certified mail receipts;
   h) a 104(e) information request letter addressed to Ms. Lovie Helbelka.

7) Letter to Mr. Richard Bernhard, Wolff Petroleum Equipment Service, from Mr. Bruce P. Smith, U.S. EPA, re: 104(e) information request, (undated). P. 35-48. The following are attached:

a) a certified mail receipt;
b) an envelope;
c) a letter in response to the 104(e) information request letter;
d) seven transfer documents.

REMEDIAL RESPONSE PLANNING
Work Plans

1) Report: Statement of Work for Soil Borings and Well Installation at the Hebelka Site, Lehigh County, Pennsylvania prepared by Mr. George J. Latulippe, NUS Corporation, 6/87. P. 1-61.

2) Report: Statement of Work for Surveying and Topographic Mapping Services at the Hebelka Site, Lehigh County, Pennsylvania prepared by Mr. George J. Latulippe, NUS Corporation, 6/87. P. 62-122.

3) Report: Final Field Operations Plan, RI/FS, Hebelka Site, Weisenberg Township, Lehigh County, Pennsylvania, prepared by Mr. George J. Latulippe, NUS Corporation, 7/87. P. 123-236.

4) Report: Final Work Plan, Remedial Investigation/Feasibility Study, Hebelka Site, Weisenberg Township, Lehigh County, Pennsylvania, prepared by Mr. George J. Latulippe, NUS Corporation, 7/87. P. 237-346. References are listed on P. 346.

5) Memorandum to Mr. Francis Burns, U.S. EPA, from Ms. Theresa A. Simpson, U.S. EPA, re: Transmittal of the Quality Assurance Review for the Hebelka Site Field Operations Plan, 7/13/87. P. 347-366. The Plan is attached.

6) Memorandum to Mr. Francis Burns, U.S. EPA, from Ms. Theresa A. Simpson, U.S. EPA, re: Transmittal of the Quality Assurance Review for the Hebelka Site Final Field Operations Plan, 8/12/87. P. 367-385. The Plan is attached.

Remedial Investigation/Feasibility Study Reports

1) Report: Draft Remedial Investigation Report, Volumes I-II, Hebelka Site, Weisenburg Township, Lehigh County, Pennsylvania, prepared by Mr. George J. Latulippe, NUS Corporation, 4/88. P. 1-452. References are listed on P. 158-160 and 452. The Laboratory Chemical Analytical Data is presented in Appendix D.

2) Report: Draft Feasibility Study, Hebelka Site, Weisenburg Township, Lehigh County, Pennsylvania, prepared by Mr. George J. Latulippe, NUS Corporation, 6/88. P. 453-646. References are listed on P. 581-585. The Detailed Analysis of Alternatives is presented in Section 4.

Health Risk/Endangerment Assessment

1) Letter to Mr. Abraham Ferdas, U.S. EPA, from Mr. Stephen D. Von Allmen, U.S. Department of Health and Human Services, re: Transmittal of the draft Preliminary Health Assessment for the Hebelka Site, 11/8/88. P. 1-10. The draft Preliminary Assessment is attached.

Correspondence and Supporting Documentation

1) Notice of Receipt to Ms. Patricia Tan, U.S. EPA, from Ms. Barbara J. Gontz, Pennsylvania Department of Environmnetal Resources, re: Hazardous Substance Response Trust Fund, 6/10/86. P. 1-3. A letter regarding the proposed Superfund project to be funded by the U.S. EPA is attached.

2) Memorandum to Mr. Fran Burns, U.S. EPA, from Ms. Kathryn Davies, U.S. EPA, re: Review of Preliminary Workplan, 5/15/87. P. 4-4.

3) Memorandum to Mr. Fran Burns, U.S. EPA, from Ms. Kathryn Davies, U.S. EPA, re: Review of Hebelka Draft Remedial Investigation/Feasibility Study Workplan, 6/18/87. P. 5-6.

4) Letter to Mr. Richard C. Evans, EBASCO Services Incorporated, from Mr. Fran Burns, U.S. EPA, re: Comments on the Hebelka Draft Work Plan, 6/25/87. P. 7-9.

5) Memorandum to Mr. Fran Burns, U.S. EPA, from Mr. H. Ronald Preston, U.S. EPA, re: Comments on the Hebelka Draft Work Plan, 7/6/87. P. 10-10.

6) Memorandum to Mr. Francis Burns, U.S. EPA, from Mr. Robert C. Runowski, U.S. EPA, re: Comments on the Hebelka Draft Work Plan, 7/9/87. P. 11-13. A Routing and Transmittal slip is attached.

7) Letter to Mr. Fran Burns, U.S. EPA, from Mr. Charles J. Kulp, United States Department of the Interior, re: Comments and questions on the Draft Work Plan for the Hebelka Site, 7/13/87. P. 14-15.

8) Memorandum to Mr. Fran Burns, U.S. EPA, from Mr. Tim Sheehan, Pennsylvania Department of Environmental Resources, re: Transmittal of comments on the Draft Work Plan for the Hebelka Site, 7/20/87. P. 16-20. The comments on the Draft Work Plan and a Pennsylvania Department of Environmental Resources receipt are attached.

9) Memorandum to Mr. Francis Burns, U.S. EPA, from Mr. Peter Stokely, U.S. EPA, re: Hebelka Site Visit, 6/14/88. P. 21-22.

CONGRESSIONAL CORRESPONDENCE

1) Letter to Mr. William C. Bucciarelli, Pennsylvania Department of Environmental Resources, from Representative William J. Klingaman, Jr., State of Pennsylvania House of Representatives, re: Transmittal of a letter concerning the condition of the junkyard owned by Mr. Joseph Hebelka, 4/14/78. P. 1-2. The letter is attached.

2) Letter to Mr. Reynold G. Reinert, Weisenberg Township, from Representative William K. Klinaman Jr., State of Pennsylvania House of Representative, re: Action taken in connection with the "Highway Beautification Act of 1965," 4/14/78. P. 3-3.